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AN ANALYSIS OF MICROCOMPUTER
REQUIREMENTS FOR USAF
BASE-LEVEL SUPPLY ACCOUNTS

THESIS

William S. Sobaskie
Captain, USAF

AFIT/GLM/LSM/89S-55

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AN ANALYSIS OF MICROCOMPUTER REQUIREMENTS
FOR USAF BASE-LEVEL SUPPLY ACCOUNTS

THESIS

Presented to
the Faculty of the School of Systems and Logistics
of the Air Force Institute of Technology
Air University
In Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Logistics Management

William S. Sobaskie
Captain, USAF

September 1989

Approved for public release; distribution unlimited

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William S. Sobaskie

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Abstract

At the Air Force base level, for computer systems other than those which are command directed, organizations are required to determine their own information system requirements and provide adequate justification for their acquisition. However, formal guidance and techniques to accurately determine an organization's microcomputer requirements are general in nature and not easily applied.

The objective of this research study was to identify the primary microcomputer requirements of the base-level supply account, as perceived by the supply community, in terms of the numbers of microcomputers needed and their placement within the organizational structure. A survey of 30 Management and Systems Officers was conducted resulting in a descriptive analysis of the current microcomputer status of base-level supply accounts in terms of the numbers of microcomputers in use, their placement in the organization, and specific applications in use. In addition, the Management and Systems Officers also participated in an opinion survey resulting in recommended numbers of microcomputers for the various work sections of Base Supply. Finally, a microcomputer planning guide for Base Supply was developed to aid the supply manager with his future microcomputer acquisition decisions.

AN ANALYSIS OF MICROCOMPUTER REQUIREMENTS
FOR USAF BASE-LEVEL SUPPLY ACCOUNTS

I. Introduction

Background

Over the past decade, microcomputers have been introduced into the Department of Defense (DOD) at an accelerating rate in terms of gross quantities and total costs. A new contract is expected to be awarded by October 1989 for approximately 250,000 microcomputer-based systems and is estimated to be worth \$1 billion (5:8; 9:111).

A general policy of the DOD is to "improve productivity and mission accomplishment through the application of computer technology." In a 28 June 1985 letter from the Auditor General, J.H. Stolarow, to the Secretary of the Air Force and the Chief of Staff, Mr. Stolarow stated, "Small computer systems provide an excellent opportunity to increase productivity and improve mission effectiveness" (1:2). The letter further explained that although the unit cost for microcomputers was relatively low, the large quantity of small computers being acquired by the Air Force and their high total life cycle costs necessitate adequate controls over requirements identification and system implementation (1:2).

At the base level, for computer systems other than those which are command directed, organizations are required to determine their own information system requirements and provide adequate justification for their acquisition. However, formal guidance and techniques to accurately determine an organization's microcomputer requirements such as those found in the Air Force Pamphlet, How to Determine and Justify Information Systems Requirements in an Office Environment, AFP 700-30, seem to be general in nature and not easily applied.

The problem of determining microcomputer requirements is faced by many base-level supply accounts. Since there are few microcomputer-based tasks specifically outlined in the supply governing directives, the problem of defining the requirements is largely subjective. Informal interviews with supply officers attending the Air Force Institute of Technology suggest that microcomputer equipment is routinely introduced into the Standard Base Supply System (SBSS) working environment without specific implementation plans. In addition, microcomputers are frequently acquired based on general impressions of where they could be used, limited knowledge of their capabilities, and the feeling that applications will be found after the system is acquired (10; 18). Furthermore, it appears that in some supply accounts microcomputers have been acquired and then

predominantly used as remote terminals for the S1100/60 mainframe or strictly as word processors (10; 18).

Statement of the Problem

Base-level supply account managers have no formal knowledge base to aid their microcomputer acquisition decisions. The objective of this research study was to identify the basic microcomputer requirements of the base-level supply account, as perceived by the supply community, in terms of the quantities of microcomputers needed and their placement within the organizational structure. The requirements identified are presented both in Chapter IV and in a microcomputer planning guide developed for managers to use as an aid in making their future microcomputer acquisition decisions (Appendix G).

Research Questions

The following five investigative questions were answered to provide a basis for obtaining the research objective:

1. What work sections within base-level supply accounts have microcomputers and how many are in each section?
2. For those work sections in base-level supply accounts that do have microcomputers, what specific applications are they being used for?
3. What work sections in base-level supply accounts are perceived by the supply community to require microcomputers to improve mission performance?

4. For those work sections perceived to require microcomputers, what is the quantity of microcomputers required for each section?

5. For those work sections perceived to require a microcomputer, for what applications would the microcomputer be used in addition to the current applications?

Scope of the Research

This research study focused on determining the basic microcomputer requirements of the base-level supply account strictly in terms of system quantities and placement within the organization. The study examined software only insofar as lending support and justification for a microcomputer to be assigned to a given work section. In addition, the term "microcomputer" was used in the general sense (see definition on page 5) and no distinction was made concerning the different possible system configurations and their associated capacity differences.

Limitations

Three limitations of this study should be considered when evaluating the findings and conclusions. First, the data used to determine the microcomputer requirements for base-level supply accounts was obtained only from CONUS SBSS primary accounts as defined in USAF Supply Manual: USAF Standard Base Supply System, AFM 67-1, Vol II, Part Two, Chapter 2; therefore, the results should be regarded as valid only for similar accounts. Second, the data concerning "perceived" microcomputer requirements was

completely subjective and is liable to change as new microcomputer applications are found for supply-related tasks. Finally, the Fuels Branch of base-level supply accounts was excluded from this study due to the Air Staff-initiated Project PETROL RAM which was conducting an on-going, exhaustive analysis for automating fuels-related activities (6:2).

Assumptions

This study assumed that all CONUS SBSS primary accounts were operationally and organizationally similar enough to allow generalizations to be made concerning their basic microcomputer requirements.

Definition of Terms

The following terms and expressions are used frequently in this research study and are defined below:

Microcomputer:

. . . a desktop-based workstation with at least one central processing unit, a single user operating system, and a stand-alone operational capability. This definition includes stand-alone and networked microprocessors costing \$15,000 or less per unit, but excludes separately priced peripherals and software. (24:3)

The Standard Base Supply System (SBSS) is an accounting system consisting of standardized equipment, programs, procedures, and supply policy (20:1-7).

A primary account is an SBSS supply account that has a computer system on site, normally the S1100/60, for SBSS

accounting and reporting purposes. The primary account is distinguished from satellite accounts that are small activities that do not require a S1100/60 on site. In addition, a primary account provides the satellite account with computer capability (20:1-7).

II. Literature Review

The literature search included resources available through the Defense Logistics Studies Information Exchange (DLSIE), the Defense Technical Information Center (DTIC), the libraries located at the Air Force Institute of Technology, and applicable Air Force publications.

This review covers four areas pertinent to the research problem. First, microcomputers are described and contrasted to other computer-based information systems (CBIS) to gain a better perspective concerning their functional role. Second, the current status of microcomputers in the general Air Force environment is reviewed. Third, the microcomputer acquisition process for base-level organizations is discussed. Finally, a description of the typical supply account and the current status of microcomputer applications in base-level supply account operations are presented.

Taxonomy of Computer-Based Information Systems

A well established CBIS taxonomy consisting of four main types of systems is described in the following paragraphs.

Centralized Systems are large computer systems designed around a central processor or mainframe (11:64). Remote terminals, commonly referred to as "dumb" terminals because of their lack of an internal memory storage device or microprocessor, provide the user interface to access the

mainframe and allow interactive processing activities to take place. These systems are also characterized as having a centralized input system on the mainframe, usually used for batch processing or file maintenance activities (11:64).

Distributed Systems can be visualized as "spokes" around a central processor or mainframe (11:64). The individual "spokes" can have their own microprocessors, terminals, and memory storage devices that may have their own databases and unique computing capabilities. However, the individual terminal users can communicate with each other only by going through the central processor (11:64). These systems are contrasted from centralized systems by their software and data independence (11:64).

Decentralized Systems can be thought of as a network composed of individual computer systems having their own processors, storage devices, and input/output devices (11:64). Unlike distributed systems, these systems have no central processor through which communications are regulated (11:64). Communications can be carried out in an interactive mode in the network on an individual basis or in groups. Decentralized systems are also referred to as "peer networks" (11:64).

Stand-Alone Systems are composed of a microprocessor, a memory storage device, and input/output devices used in individual work areas (11:64). Generally speaking, these systems are contrasted from decentralized systems by the

absence of communication between systems. In practice, stand-alone systems are commonly referred to as microcomputers, PCs, or small computers. However, individual microcomputers can also be incorporated into decentralized or distributed systems with the proper configuration and software.

Microcomputers in the Air Force Environment

Current Status. Microcomputers are being introduced into the Federal Government at a rapidly increasing rate. In 1983, only 7908 microcomputers were purchased by all the Federal agencies combined (4:9). By 1985, that number had risen to 67,502 microcomputers, a more than 800 percent increase over 1983 (4:9). According to a recent survey by the General Services Administration, Information Resources Management Service (GSA/IRMS), the total number of microcomputers purchased by the Air Force alone during fiscal year 1987 was approximately 39,000 microcomputers for \$68 million (24:3-4).

According to the GSA/IRMS survey mentioned previously, at the end of FY87 the total number of microcomputers government-wide was approximately 490,400 and estimated to be worth nearly \$1.8 billion (24:7). Official forecasts predict the automation trend will continue to increase with the expected number of microcomputers in the Federal Government to exceed one million during the 1990's (24:7). The graphs in Figures 1 and 2 show the cumulative results

(as of 1987) of the Air Force's emphasis towards increasing productivity through the use of microcomputers, both in relation to other agencies and also the immense magnitude of the financial investment required.

The Air Force's drive for increased automation is continuing and expanding to even greater financial proportions. In November 1988, the Air Force's Standard Systems Center (SSC) at Gunter AFB, Alabama, issued a request for proposals for an enormous Air Force requirements contract worth an estimated \$1 billion in microcomputer systems (9:111). This contract, named the Desktop 3 contract, is expected to be awarded by the end of fiscal year 1989 and could include up to 250,000 new microcomputer workstations (5:8 ; 9:111).

The new Desktop 3 contract will follow the Zenith Data Systems contract which expired in February 1989 (9:111). According to an article in Aviation Week & Space Technology, when the Zenith contract expired, Zenith was expected to have shipped nearly 300,000 Z-248 computers (9:111). As of 1987, 253,000 microcomputers (52%) of the 490,400 microcomputers currently in operation government wide came from Zenith Data Products (24:6). These facts potentially indicate the level of dominance Zenith has achieved in microcomputer sales during the government's drive for increased automation.

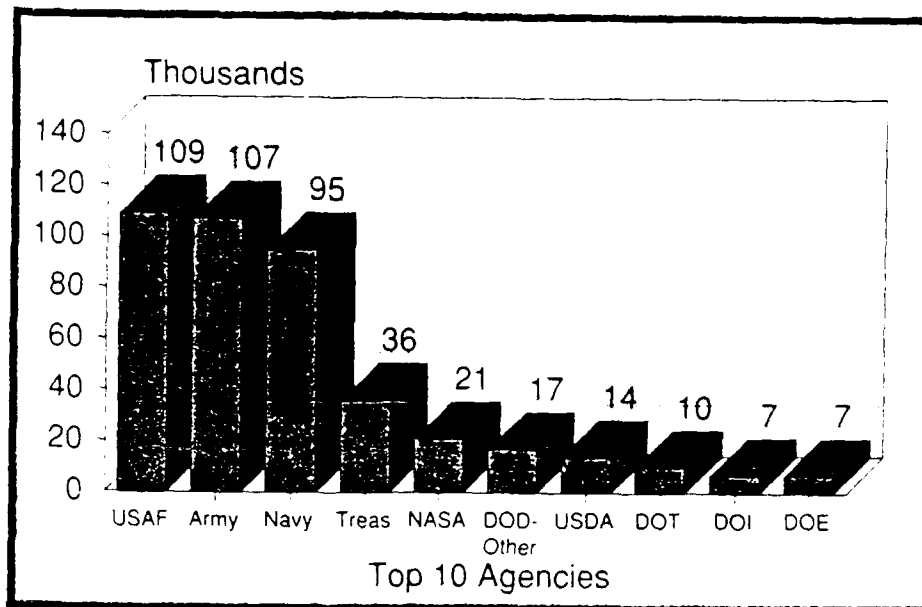


Figure 1. Total Inventory (In Quantity) of Federal Microcomputers by Agency (24:5)

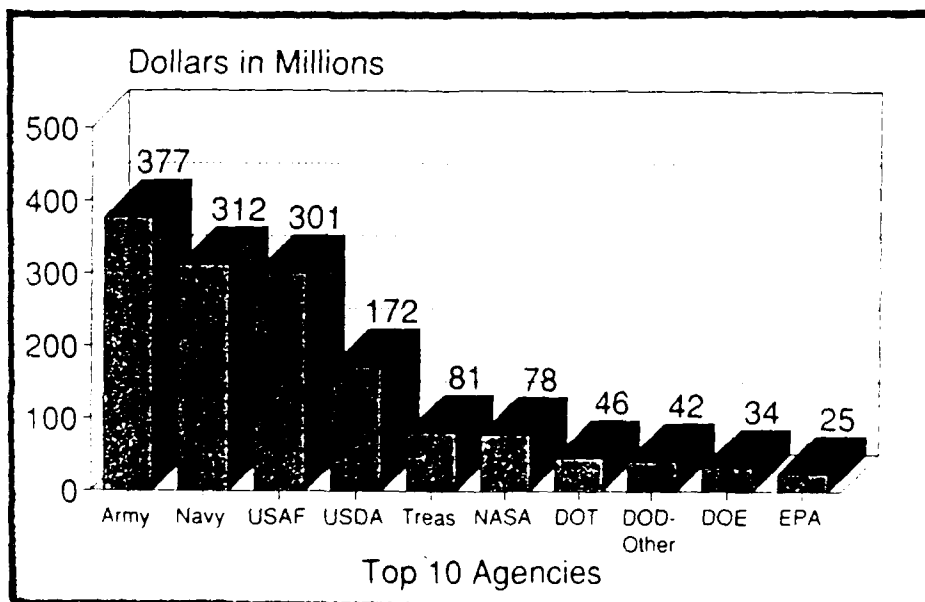


Figure 2. Total Inventory (In Dollars) of Federal Microcomputers by Agency (24:6)

Evolution of Microcomputers at the Base Level.

Introduction of microcomputers at the base level began in the early 1980's (8:14; 19:6). In 1981, a joint program by the Tactical Air Command (TAC), United States Air Forces Europe (USAFE), and the Pacific Air Forces (PACAF) initiated the introduction of microcomputers into the operations field. The emphasis was to increase efficiency in performing flight planning calculations (8:14).

The next significant influx of microcomputers occurred in 1982 with the introduction of the Zenith 100 microcomputer in the base-level comptroller community (3:2). The "Base Level Comptroller Improvement Program (BLCIP)" was a pilot program initiated by the Air Force Comptroller to study microcomputer applications in office automation (8:14). Productivity increases were achieved, and as of July 1986 the comptroller community had approximately 2400 microcomputers with projected increases of an additional 4000 systems over the next few years (12:i). By 1987, however, there was growing concern in the comptroller field over improper implementation and hasty acquisition of the systems and the resulting dysfunction of the affected offices (14:4). Some of the main implementation problems cited in the literature concerned software problems, the total lack of training provided for the intended users, and a rushed and ill-planned implementation program (14:4-5).

Although it is known that microcomputers have been introduced into many other base-level organizations including maintenance and transportation, no significant references were found during the literature search.

Microcomputer Acquisition Process for Base-Level Organizations

Requirements Analysis. Microcomputer requirements typically originate from "a deficiency in an existing operational capability, a need for a new capability, or an opportunity to replace an existing system with a new and improved technology when it is operationally and economically practical" (22:5). As mentioned previously in Chapter I, the user is responsible for identifying and justifying his microcomputer requirements as accurately as possible (22:5).

Air Force Pamphlet 700-30 provides one method, called Information Systems Requirements Analysis, to help the user identify areas where automation could provide beneficial results (21:1). In practice, this exhaustive systems analysis technique is commonly superseded by the subjective judgment and experience of the affected manager.

Approval Process. The general process for acquiring a microcomputer and related components at the base level is specified in AFR 700-3, AFR 700-5, and AFM 67-1, Vol II, Pt Two, Chapter 22, Section O and consists of the following steps:

1. The user must identify and justify the microcomputer requirements either on an AF Form 601, Equipment Action Request, or an AF Form 3215, Communications-Computer Systems Requirements Document (CSRD). An AF Form 601 is used when the required items are contained in a table of allowance (TA 009) and an AF Form 3215 is used when the requirements are not satisfied by items on the table of allowance.

2. The applicable form and any attachments are forwarded to the base communications-computer systems requirements board (CSRB) for requirements processing actions. The base-level CSRB is governed by AFR 700-5, and is responsible for reviewing, validating and approving or disapproving all base-level communication-computer system requests.

3. If the request is approved, the base communications-computer systems officer (CSO) forwards the documentation back to the user.

4. The user then forwards the approved documentation to the Equipment Management Section of Base Supply for processing.
(20: Ch.22, p. 365-367; 22:5-6; 23:1-2)

Status of Microcomputers in the SBSS

The productivity and efficiency increases possible through the use of microcomputers have begun to be pursued over the past five years in the base-level supply community. The following discussion describes the SBSS functions and organizational environment and then reviews previously developed microcomputer applications for supply-related activities.

Review of SBSS Functions and Organizational Environment. The SBSS performs a variety of interrelated functions in support of the base level or "retail level" of the Air Force supply system. Greer and Moon cite a general description of the SBSS based on six fundamental functions

that the SBSS performs. The issue function involves the proper distribution and accounting for property released to base customers. The requisitioning function pertains to determining sources of supply, processing orders for customer requested assets, and the subsequent monitoring of the orders until receipt. The adjustment function concerns the maintenance of internal accounting records. The turn-in function includes both the inspection of property being turned in by base customers and the evaluation of the level of repair required, if applicable. The receipt function covers many areas including the transfer of accountability, inspection, identification, handling, and storage of property received. Finally, the shipment function concerns the off-base movement of property for the purposes of lateral supply support, evacuation of reparable assets to higher echelons of repair capability (depots), or redistribution of excess assets to supply depots (7:1-2).

In order to carry out the SBSS responsibilities and functions, a highly integrated organizational structure was developed. This structure, commonly known as "Base Supply", is headed by the Chief of Supply and is shown in Figure 3.

According to AFM 67-1, "the Chief of Supply is responsible to the Commander or senior materiel officer for an effective and efficient Base Supply operation (20: Ch. 2, p. 45)." Base Supply consists of five main branches; however, since this study excluded the Fuels Branch, only

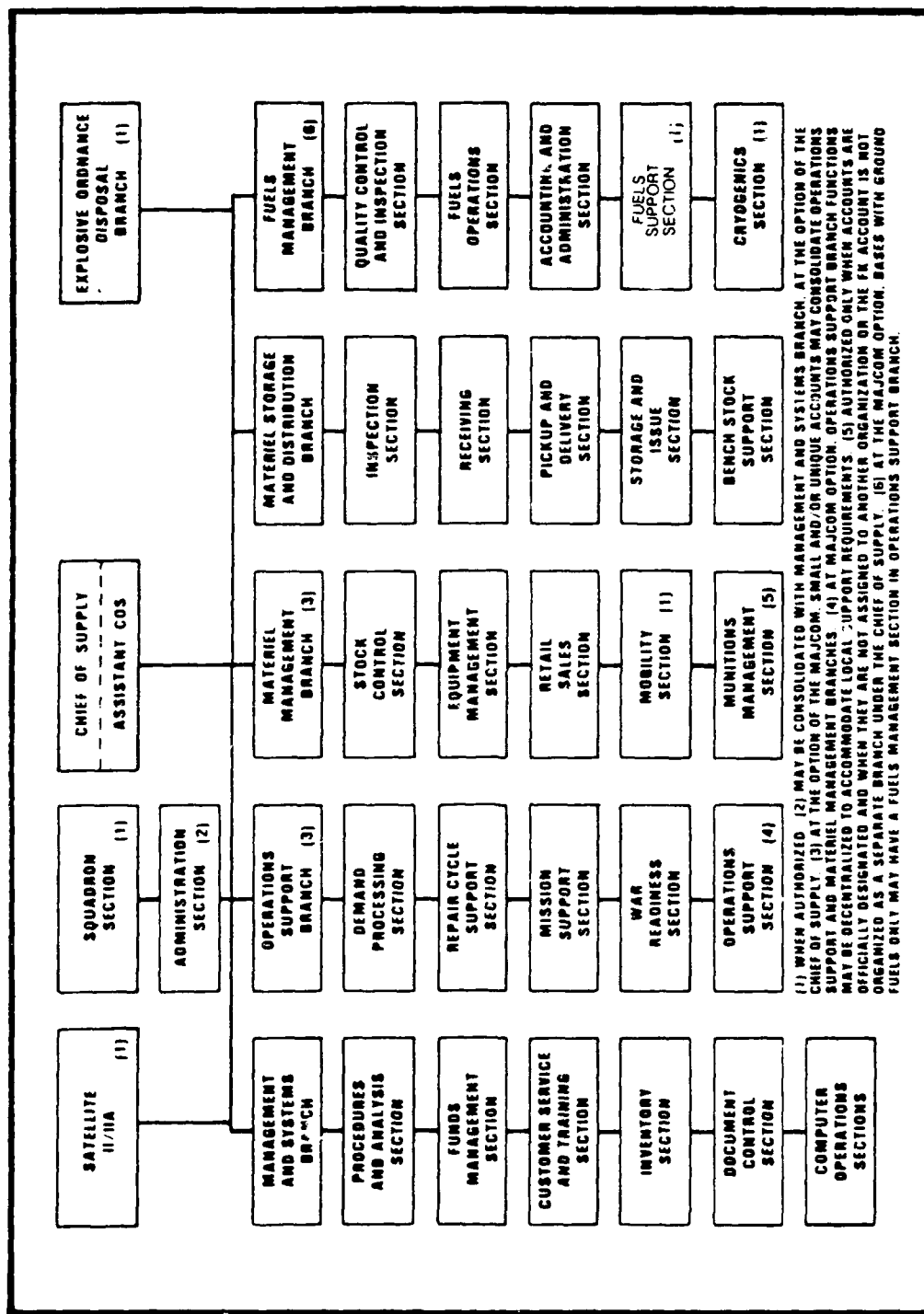


Figure 3. Chief of Supply Organization Chart (20: Ch. 2, p. 96)

the Management and Systems Branch, Operations Support Branch, Materiel Storage and Distribution Branch, and the Materiel Management Branch are discussed.

The Management and Systems Branch consists of six main sections. While all of the sections have different areas of responsibility, they have a common mission within the account of monitoring the overall SBSS effectiveness. This can be clearly seen by the Procedures and Analysis Section's internal surveillance program and the Customer Service and Training Section's monitorship of customer support trends (20: Ch. 2, p. 51).

The Operations Support Branch consists of five main sections. This branch is responsible for the SBSS functions involved in direct customer contact, such as processing customer requests through the Demand Processing Section or tracking down "hard to find" mission-essential parts through the Mission Support Section. In addition, this branch contains the War Readiness Section which is responsible for the management and readiness of the War Reserve Materiel in the account (20: Ch. 2, p. 75).

The Materiel Storage and Distribution Branch also consists of five main sections. This branch is responsible for performing all the activities related to the physical movement, storage, and processing of all supplies and equipment into, within, and out of Base Supply (20: Ch. 2, p. 83).

The Materiel Management Branch may contain up to five sections. This branch is responsible for the proper management of all supplies and equipment within Base Supply through the Stock Control and Equipment Management Sections. The Retail Sales Section, containing the functional units of the Base Service Store (BSS), Tool Issue Center (TIC), and Individual Equipment Unit (IEU), is also a section within this branch and provides over-the-counter office supplies, hand tools, and individual equipment to base customers (20: Ch. 2, p. 67).

Microcomputer Applications in the SBSS. Since the early 1980's, supply-related activities have slowly been analyzed for possible areas of microcomputer application. In 1981, Headquarters United States Air Force, Supply Policy and Energy Management Division (HQ USAF/LEYS), queried all major commands for potential uses of "minicomputers" in Base Supply (8:12). An excerpt of the reply Headquarters Strategic Air Command/Supply Directorate (HQ SAC/LGS) sent to HQ USAF/LEYS was found in Howard's thesis (See Appendix B). Although the information in this letter was compiled in 1981, many of the recommendations may still be viable and worthy of consideration for future automation projects (8:90-99).

In 1981, the Air Force Logistics Management Center (AFLMC), Gunter AFB, Alabama, began a study called the "Base Service Store Enhancement Project." The main purpose of the

study was to "test source data automation (SDA) technology through the use of commercially available point-of-service (POS) equipment in the Base Service Store (BSS) retail outlet and the Tool Issue Center (TIC) to determine if supply operations could be improved (13:1)." The POS equipment enabled the customer to avoid having to fill out and sign cards for each item purchased by providing the BSS/TIC personnel with on-line transaction processing capability (13:1). The study concluded that the SDA technology was a great improvement over the existing manual system and recommended its adoption for use in selected areas of Base Supply (13:ii). Today, the results of this study can be seen in the Base Automated Service Store (BASS) system, a microcomputer based system that BSS personnel use to perform daily transaction processing (20: Ch. 23, p. 86).

The AFLMC has been active in developing other microcomputer applications for various areas in the SBSS. The main application programs found during this literature search included the Exception Code Control (ECC) card and Funds Requirement card (FRC) management programs, the Supply Mobility and Recurring Training (SMART) program, the Mobility Bag Inventory System (MBIS) program, and the Inventory Adjustment Program (IAP) application program (See Appendix H).

The ECC and FRC programs are designed to eliminate the use of external punch cards to store data. The use of punch

cards resulted in time consuming data retrieval, lost punch cards, and manually intensive updating of the cards' information. These two programs allow faster access and more accurate update of required information (15:i).

The SMART program was developed to allow managers to track and schedule supply personnel for mobility-related training or any other recurring training requirements. The program provided an automated means to track training status and also was programmed to provide various reports for delinquent or future training requirements (16:2).

The MBIS program was designed to eliminate paper accounting files for mobility bags and their contents. MBIS provided an automated means to determine the readiness of the mobility bags and their contents and to increase responsiveness to deployment taskings requiring the bags (17:2).

The IAP software was developed in response to an Inspector General investigation that suggested a lack of in-depth analysis of inventory adjustments at the base level. The program identifies items with multiple adjustments over a given time period and also tracks adjustments by warehouse location to provide managers with a tool to detect trends and problem areas (2:2).

III. Methodology

This chapter contains the data collection and analysis methodology that provided the process for answering the research questions in Chapter I. The following steps were taken to accomplish the research objective:

1. An interview guide was prepared (see Appendix A).
2. The interview guide was validated by peer (experienced supply officers') review.
3. A random sample of 30 base-level supply accounts located in the CONUS and classified as SBSS primary accounts in AFM 67-1, Vol II, Part Two, Chapter 2, was selected to provide the necessary data.
4. The Management and Systems Officer from each SBSS account selected was contacted by telephone to solicit his participation in the study. Each participating officer was sent a copy of the interview questions in the mail to allow sufficient time for collecting data and forming opinions concerning the questions before the actual interview.
5. The Management and Systems Officers were interviewed by telephone.
6. The data thus collected were analyzed and summarized to answer the research questions.
7. A planning guide was prepared reflecting guidelines to aid supply managers in better determining their microcomputer needs and improving productivity (Appendix G).
8. The guide was sent to all 30 of the previously selected Management and Systems Officers per prior agreement. Ten of the Management and Systems Officers were then interviewed again by telephone to validate the guide's accuracy and usefulness.
9. Although no format or content changes to the planning guide were suggested during the validation process, other relevant comments from the Management and Systems Officers were discussed in Chapter IV.

Justification of the Survey Approach

Microcomputers are being introduced into the SBSS environment in a variety of work areas. As mentioned previously in Chapter I, formal guidance concerning microcomputers in the base-level supply account is limited. It can be postulated that base-level supply managers, likely the Management and Systems Officers, are relying on their judgment and expertise to guide the microcomputers' placement and eventual use in most organizations.

Based on these conditions, an opinion survey of Management and Systems Officers was determined to be the most feasible means of acquiring the necessary data for answering the research questions and providing information for use in the development of a microcomputer planning guide. The Management and Systems Officers were chosen as the source for data because of their unique position in the base-level supply account. Their responsibilities include monitoring the entire supply accounts' operations through their Procedures and Analysis Sections and also managing the computer systems in the accounts, primarily through the Computer Operations Sections.

Data Collection

Interview Guide Preparation and Validation. The interview guide was prepared and then reviewed by knowledgeable supply officers at the School of Systems and Logistics, Air Force Institute of Technology, Wright-

Patterson AFB, Ohio. The interview questions were asked in the same order during each interview to prevent bias from entering the response because of the effect of a previous question. The supply officers who reviewed the guide were briefed on the objective of the research study and also were provided with the research questions from Chapter I. After evaluating the interview guide in light of its intended purpose, all the supply officers determined it to be a valid instrument to answer the research questions.

Each interview consisted of three main parts. First, pertinent background information was collected to distinctly identify the interviewee. In particular, data were gathered to determine the interviewee's degree of supply experience and also the amount of time he had been assigned to his current supply account to provide possible insight into the basis for his answers. Second, the supply account's current microcomputer status was defined in terms of the number of microcomputers in use, their individual locations in the account, and the specific applications for which they were being used. Finally, the interviewee was asked to provide his opinion on which work sections he believed actually needed a microcomputer in terms of its capability to help produce a meaningful increase in mission performance, what number of microcomputers were appropriate for each section, and what applications, in addition to the current ones, the microcomputers would be used for.

Sample Population and Sampling Plan. The population of interest in this study was limited to the 74 base-level CONUS supply accounts defined as primary accounts in AFM 67-1, Volume II, Part Two, Chapter 1, Section A. The population was limited to the CONUS activities based on convenience to avoid the inherent communication interruption and time zone problems associated with overseas telephone interviewing. A random sample size of 30 supply accounts was chosen subjectively as a sufficient number of accounts to provide a basic understanding of the base-level microcomputer requirements and to collect a sufficient amount of field data to answer the research questions and enable the initial version of the planning guide to be developed. The 30 supply accounts who participated in the study were randomly selected from the bases listed in AFM 67-1, Volume II, Part Two, Chapter 2, Attachment A-1, identified as computer support bases.

The Management and Systems Officers were contacted by telephone to solicit their participation in the study. Each participating officer was sent a copy of the interview guide to allow enough time to collect data and form opinions about the questions. Since some of the Management and Systems Officers could be newly assigned to the account or cross-trained from a different career field, having the questions beforehand allowed them the opportunity to request inputs from other knowledgeable sources in the account. This

provision was expected to minimize the effect of variability in supply knowledge among Management and Systems Officers.

Data Analysis

Since the analytical method used in this study was highly subjective in nature, statistical tests were not deemed appropriate. Instead, the data were analyzed and summarized according to the following guidelines to obtain answers to the research questions:

Research Question 1. What work sections within base-level supply accounts have microcomputers and how many are in each section?

To answer this question, the data in Appendix C were analyzed by identifying which work sections had microcomputers in use and calculating relative percentages for the numbers of microcomputers reported by the Management and Systems Officers for each work section. This information is presented in summary tables in Chapter IV.

Research Question 2. For those work sections in base-level supply accounts that do have microcomputers, what specific applications are they being used for?

The data pertaining to the software applications currently being used by the 30 supply accounts were consolidated in Appendices D and E. The data in Appendix D were compiled as a separate list of all the locally developed software and applications reported during the interviews and includes points of contact for interested

parties to pursue further information. The data in Appendix D were also combined with related microcomputer applications data in Appendix E for analysis purposes.

The applications data in Appendix E provides a consolidated list of applications reported for all the branches and work sections of the surveyed supply accounts. The applications data in Appendix E were analyzed by determining the number of supply accounts whose individual work sections had a specific type of software or application in use as a percentage of the number of accounts who had a microcomputer in use in the applicable work section. In addition to identifying the various applications being used, this type of analysis may provide a general indication of the degree of acceptance attributable to a specific software program or application. The percentage values are found in Appendix E with the most frequently mentioned applications discussed in Chapter IV.

Research Question 3. What work sections in base-level supply accounts are perceived by the supply community to actually require microcomputers in the sense that the availability of a microcomputer would enable a meaningful increase in mission performance to occur?

The data collected to answer this question are found in Appendix F. The data were analyzed by identifying the work sections recommended by the Management and Systems Officers as requiring microcomputers. The answer to this research

question is combined with the answer to Research Question 4 and shown in summary tables in Chapter IV.

Research Question 4. For those work sections perceived to require microcomputers, what is the number of microcomputers required for each section?

The data collected to answer this question, shown in Appendix F, did not appear to lend itself to determining a conclusive single number of microcomputers for each of the given work sections. Therefore, the data were treated the same way as in Research Question 1 whereby relative percentages were calculated for each of the recommended number of microcomputers reported by the Management and Systems Officers. This information is presented in summary tables in Chapter IV.

Research Question 5. For those work sections perceived to require a microcomputer, for what applications would the microcomputer be used in addition to the current applications?

The answer to this question was determined directly from responses given during the interviews. The applications that are currently being evaluated for use or already planned for future implementation were submitted during the interviews and are discussed in Chapter IV. The proposed applications data is included with the current applications data in Appendix E. The data were further analyzed by calculating the number of Management and Systems

Officers who mentioned the application as presently under consideration or planned for future implementation.

As mentioned previously in Chapter II, Base Supply has an organizational structure made up of branches, sections, and units. Figure 3 in Chapter II names the various branches and sections that make up this organization. Although there are various options to alter this organizational structure to better suit mission requirements (See notes in Figure 3), the data and findings were subjectively chosen to be categorized according to the basic organizational structure in Figure 3 identified by the branches and sections named in the boxes.

Microcomputer Planning Guide Validation

Ten Management and Systems Officers from the original survey participants were provided a copy of the microcomputer planning guide and then questioned to determine if the information in the guide was accurate and useful. This sample size was chosen subjectively, based on convenience. The Management and Systems Officers were contacted by telephone and questioned to determine the guides accuracy and usefulness in helping them to evaluate their accounts' microcomputer needs. In addition, the officers were also questioned concerning the guides format and content to identify possible improvements.

IV. Findings and Conclusions

Background

The microcomputer data used to answer the research questions of this study were collected during the period from April to June 1989, according to the methodology outlined in the Chapter III. Although most of the data were collected by telephone interview, 11 of the 30 Management and Systems officers surveyed submitted their replies by letter to provide more detailed information about the applications their supply accounts were using.

The following discussion briefly describes the method chosen to present the research findings. The findings are then summarized and analyzed to determine answers to the research questions. Research Questions 1 and 2 are addressed in the Current Microcomputer Status section and Research Questions 3, 4, and 5 are covered in the Perceived Microcomputer Requirements section.

The survey results pertaining to Research Question 1 concerning the identification of work sections within the surveyed supply accounts that were using microcomputers and the actual number of microcomputers in use in the individual work sections are presented in summary tables and discussed according to the individual branches of Base Supply. The office symbols used in the summary tables are defined in Table 1.

Table 1. Standard Base Supply System Office Symbols
(20: Ch. 2, p. 39)

<u>TITLE</u>	<u>OFFICE SYMBOL</u>
Chief of Supply	LGS
Squadron Section	CCQ
Management and Systems Branch Office	LGSP
Procedures and Analysis Section	LGSPF
Funds Management Section	LGSPF
Customer Service and Training Section	LGSPF
Inventory Section	LGSPF
Document Control Section	LGSPD
Computer Operations Section	LGSPC
Administration Section	LGSPA
Supply Readiness Center	LGSPR
Operations Support Branch Office	LGSC
Demand Processing Section	LGSCD
Repair Cycle Support Section	LGSCR
Mission Support Section	LGSCM
War Readiness Section	LGSCW
Operations Support Section	LGSCX
Materiel Management Branch Office	LGSM
Stock Control Section	LGSMS
Equipment Management Section	LGSMF
Retail Sales Section	LGSMR
Mobility Section	LGSMF
Munitions Management Section	LGSMK
Materiel Storage and Distribution Branch Office	LGSD
Inspection Section	LGSDI
Receiving Section	LGSDR
Pickup and Delivery Section	LGSDD
Storage and Issue Section	LGSDS
Bench Stock Support Section	LGSDB

The findings for Research Question 2 involving the identification of the specific microcomputer applications in use in the surveyed accounts are shown in Appendices D and E. The findings in Appendix E are categorized according to the same office symbols that were used for the findings for Research Question 1. The specific applications named in the

appendices are also shown with relative percentage values to illustrate the percentage of sections already using microcomputers that were using the specific application. In some cases, the absence of microcomputer usage in specific work sections of an individual supply account may not necessarily indicate a permanent lack of useful applications for microcomputers in those sections. Instead, a possible reason for their absence may be that the microcomputer users of some accounts were not aware of some of the beneficial applications being used in other accounts.

The survey findings pertaining to Research Questions 3 and 4 regarding the perceived microcomputer requirements of work sections are presented in summary tables and in the associated discussion. The findings for Research Question 5 are integrated into the discussion, as applicable. In addition, the raw data for Research Questions 3 and 4 are provided in Appendix F for more specific comparisons. Finally, in the discussion that follows the presentation of the Management and Systems Officers recommendations for each work section, the author provides his conclusions and recommendations regarding the microcomputer requirements of the section under discussion.

The microcomputer applications in Appendix E are categorized according to the following categories: General Uses, S1100/60 Interface Software, Air Force Developed

Software/Applications, Locally Developed

Software/Applications, and Proposed Applications.

The General Uses category includes general word processing, database, and spreadsheet applications. The S1100/60 Interface Software category includes both on-line and off-line processing software. The Air Force Developed Software/Applications category includes both software originally developed by the Air Force for service-wide use and also software procured for service-wide use. The Locally Developed Software/Applications category includes all the locally developed software and applications that were developed by personnel at the base-level supply accounts surveyed and subjectively determined by the author to be of more significance than the examples shown in the General Use applications. Finally, the Proposed Applications category lists any application mentioned as being seriously evaluated for future implementation.

As mentioned previously in Chapter III, the Management and Systems Officers were chosen as the appropriate source to provide the data required to answer the research questions because of their unique job responsibilities within the SBSS and presumed experience. The officers who participated in this research study had an average of 21.9 years of supply experience, with 63 percent of the officers having over 20 years of supply experience (See Figure 4). In addition, the officers surveyed also had held the

position of Management and Systems Officer for an average of 3.2 years, with 80 percent of the officers having held the position between 1 and 5 years.

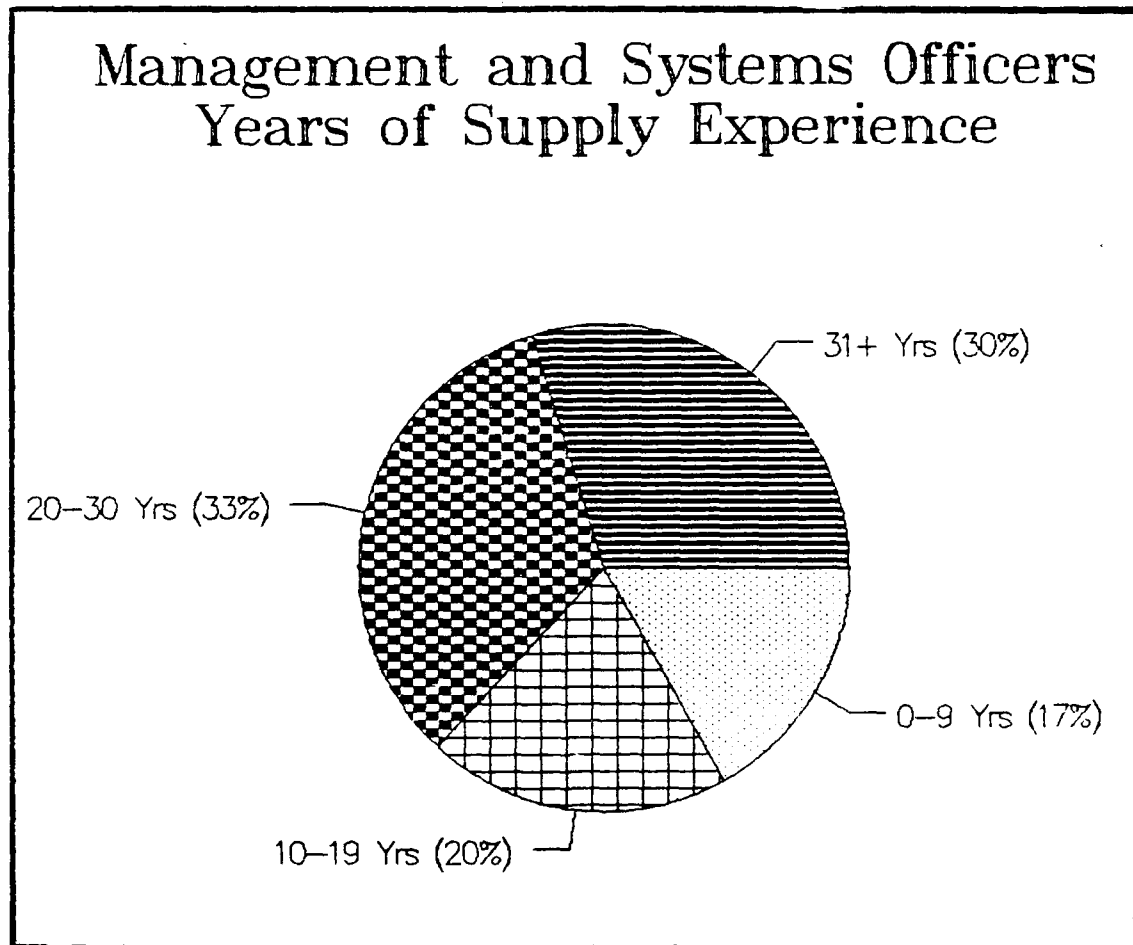


Figure 4. Management and Systems Officers Experience Level

Current Microcomputer Status

As mentioned earlier, Research Questions 1 and 2 sought to determine three aspects of current microcomputer status in base-level supply accounts. Question 1 was aimed at identifying which work sections were using microcomputers

and also determining what numbers of microcomputers were in use in each work section. Question 2 focused on determining what specific applications the microcomputers were being used for in each work section. The answers to these questions are summarized below according to the various branches of Base Supply.

Management and Systems Branch. The actual numbers of microcomputers and their locations within the Management and Systems Branches of the surveyed supply accounts are shown in Appendix C. A summary of these findings is shown in Table 2 below, identifying the relative percentages of the supply accounts surveyed with the specified number of microcomputers in use in each work section:

Table 2. Percentage of Surveyed Supply Accounts with Specified Numbers of Microcomputers In Use in the Management and Systems Branch

Office/ Section	Numbers of Microcomputers							
	0	1	2	3	4	5	6	7
LGSP	64	33	3	0	0	0	0	0
LGSPF	0	51	33	10	0	3	0	3
LGSPD	23	77	0	0	0	0	0	0
LGSPS	23	37	27	10	3	0	0	0
LGSPH	43	57	0	0	0	0	0	0
LGSPB	10	53	17	7	10	0	3	0
LGSPC	13	14	30	20	20	0	3	0
LGSPA	70	23	7	0	0	0	0	0
LGSPR	80	17	3	0	0	0	0	0

Of the 30 supply accounts surveyed, 33 percent of the Management and Systems Branch offices had one microcomputer in use, while 64 percent had none in use. Word processing applications were employed by 100 percent of the computer

equipped Management and Systems Branch offices and database applications were used by 36 percent of the offices. Various other applications were being used by individual supply accounts and are listed in Appendix E.

The majority of the Procedures and Analysis Sections (84%) had either one or two microcomputers in use. The main applications being utilized were word processing and spreadsheet applications, reported for 83 percent and 87 percent of the Procedures and Analysis Sections, respectively. Supply data analysis programs such as the M32 Analysis Program were reported for 27 percent of the Procedures and Analysis Sections using microcomputers. In addition, 37 percent of the computer equipped Procedures and Analysis Sections were using the IAP software. A variety of locally developed software applications were also in use in individual accounts and are listed in Appendix E.

Seventy-seven percent of the Funds Management Sections of the surveyed accounts were using one microcomputer. By far the most extensive use of the microcomputer in this section was for spreadsheet applications, reported for 91 percent of the Funds Management Sections using microcomputers. In addition, the Automated General Support Operation Program (AGSOP) was widely employed, as evidenced by its use in 48 percent of the Funds Management Sections using microcomputers.

Sixty-four percent of the Customer Service and Training Sections were reported to be using either one or two microcomputers. The bulk of the applications in use within the Training Units of these sections using microcomputers centered around word processing applications (65%), database applications (43%), or the Career Development Course (CDC) Pre-Test Program (35%). The Customer Liaison Offices of these sections were predominantly using microcomputers as remote terminals for the S1100/60 mainframe to process informational inquiries (See Appendix E).

The majority of the Inventory Sections (57%) were using one microcomputer, while the rest of the accounts reported none in use for the section. The main applications centered around the microcomputer's ability to access the S1100/60 mainframe for transaction processing using Terminal In-Line Processing (TIP) and also the Inventory Analysis Program (IAP) software (71%) used to better analyze inventory adjustment data.

While the numbers of microcomputers in use in the Document Control Sections ranged from zero to six, the majority of the sections (53%) had one microcomputer in use. Twenty-six percent of the Document Control Sections using microcomputers were reported to be using them for TIP. In addition, 56 percent of the sections with microcomputers were using a locally developed Document Control Card program. An additional use for microcomputers was revealed

in database applications. Various lists pertaining to personnel authorized to receipt for controlled items were maintained in 33 percent of the sections with microcomputers.

The Computer Operations Sections of the surveyed accounts were characterized by a range of one to six microcomputers. The majority of accounts (70%) had a range of two to four microcomputers in use in this section. The main uses of microcomputers in this section revolved around TIP, reported for 81 percent of the sections using microcomputers, and the associated upload and download of data files created by the Microcomputer On-Line/Off-Line Program (MOOPS) or the Worldwide Keypunch Replacement Program (WKRP), reported for 27 percent and 19 percent of the Computer Operations Sections using microcomputers, respectively. In addition, 42 percent of the Computer Operations Sections using microcomputers mentioned using the automated post-post system software on the microcomputers in the section.

Seventy percent of the accounts surveyed reported no microcomputer usage in the Administration Section. Of the 23 percent of the accounts that were using one microcomputer, 100 percent referred to word processing as the main application being used, while 33 percent also mentioned database applications in use.

The Supply Readiness Center is normally only in full operation during contingencies and exercises. Eighty percent of the surveyed accounts did not have a microcomputer in use in the section. Of the 17 percent of the accounts that did have one microcomputer residing in this section, word processing was reported as the main application for 100 percent of the accounts.

Materiel Management Branch. The actual numbers of microcomputers and their locations within the Materiel Management Branches for the survey population are shown in Appendix C. An important fact to consider when reviewing the findings: an undetermined number of the accounts did not have a Munitions Management Section because the functional responsibility was assigned to the Munitions Maintenance Squadron or some other agency at their particular base. Table 3 below shows a summary of the survey data in terms of the relative percentages of surveyed supply accounts with the specified number of microcomputers in use in each work section:

Table 3. Percentage of Surveyed Supply Accounts with Specified Numbers of Microcomputers In Use in the Materiel Management Branch

Office/ Section	Numbers of Microcomputers							
	0	1	2	3	4	5	6	7
LGSM	63	37	0	0	0	0	0	0
LGSMs	7	30	37	13	3	7	0	3
LGSME	17	60	13	7	3	0	0	0
LGSMR	10	0	13	44	23	3	7	0
LGSMm	57	40	3	0	0	0	0	0
LGSMK	83	17	0	0	0	0	0	0

The number of microcomputers in use in the Materiel Management Branch offices of the surveyed accounts were very similar to the numbers for the Management and Systems Branch offices mentioned previously. Thirty-seven percent of the Materiel Management Branch offices surveyed have microcomputers, while 63 percent of these offices were not currently using them. Also analogous to the Management and Systems Branch, word processing applications were used by 100 percent of the Materiel Management Branch offices with microcomputers. A smaller percentage of offices (18%), of those offices currently using microcomputers, used them for database applications.

The number of microcomputers in use in the Stock Control Sections ranged from zero to seven. However, 67 percent of the Management and Systems Officers reported either one or two microcomputers in use in this section. In addition to a variety of general use applications shown in Appendix E, 29 to 36 percent of the accounts with microcomputers used them for S1100/60 interface applications such as WKRP, TIP, and MOOPS. Furthermore, the majority of the Stock Control Sections were using the Air Force developed Exception Code Control (ECC) and Funds Requirement Card (FRC) programs, reported for 79 and 64 percent of the accounts with microcomputers in the section, respectively. Finally, a variety of locally developed programs were developed within the Stock Control Sections to help manage

the multitude of supply programs monitored by the sections, as shown in Appendices D and E.

Seventy-three percent of the Equipment Management Sections had either one or two microcomputers in use. In addition to a variety of word processing and database applications, reported for 28 percent and 44 percent of the accounts with microcomputers in this section, respectively, 36 percent of the accounts with microcomputers in this section were also employing TIP for processing transactions on-line with the S1100/60 mainframe. Furthermore, the Air Force developed software that automated the AF Form 600 log was being used by over half (52%) of the accounts with microcomputers in this section. A locally developed program that seemed to have gained acceptance in a noticeable percentage (24%) of the accounts with microcomputers in this section was the automated FME program used in deployment operations. This application is used to quickly transfer accountability for equipment items from the records of the original equipment custodian to the custodian designated to deploy with the equipment wherever it goes.

Eighty percent of the surveyed accounts reported two to four microcomputers within the Retail Sales Section. A unique aspect of the Retail Sales Section that influences the number of microcomputers used in this section is the presence of the Base Automated Service Store (BASS) system, mentioned for 100 percent of the accounts with

microcomputers in the section. Although the BASS system can operate with one microcomputer, some of the accounts have found it useful to have microcomputers in both the Base Service Store and Tool Issue Center.

Of the 30 accounts surveyed, 40 percent used a microcomputer in the Mobility Section. One factor that may have influenced this finding is that the Mobility Section is organized as a separate section only when authorized by the individual supply account's major command. In some cases the responsibilities of this section may have been absorbed by one of the other sections in the supply account. The main application for microcomputers, reported for 100 percent of the accounts with microcomputers in this section, was for the Mobility Bag Inventory System (MBIS) program. As mentioned previously in Chapter II, this program is used to maintain inventory accountability of the contents of mobility bags and also streamlines the deployment process where issuing of the mobility bags is involved.

Finally, for those accounts that had a Munitions Management Section with microcomputers in use (17%), the main applications reported for between 20 and 40 percent of these sections were the various S1100/60 interface applications (See Appendix E).

Materiel Storage and Distribution Branch. The raw data pertaining to the numbers of microcomputers and their location within the Materiel Storage and Distribution

Branches of the surveyed supply accounts are found in Appendix C. A summary of the survey data is shown in Table 4, indicating the relative percentages of the supply accounts surveyed with the specified number of microcomputers in the various work sections:

Table 4. Percentage of Surveyed Supply Accounts with Specified Numbers of Microcomputers In Use in the Materiel Storage and Distribution Branch

<u>Office/ Section</u>	<u>Numbers of Microcomputers</u>				
	0	1	2	3	4
LGSD	77	23	0	0	0
LGSDR	13	67	17	0	3
LGSDI	60	37	3	0	0
LGSDD	0	0	0	0	0
LGSDS	80	10	10	0	0
LGSDB	80	20	0	0	0

A smaller percentage of microcomputers (23%) were found in use in the Materiel Storage and Distribution Branch offices in comparison to the Management and Systems Branch offices (36%) and the Materiel Management Branch offices (37%). Nevertheless, the main application found in the previously mentioned branch offices, word processing, was reported for 100 percent of the accounts surveyed that currently had microcomputers in use in their Materiel Storage and Distribution Branch offices. General database applications were also mentioned being used in 14 percent of the accounts currently using microcomputers in this branch office.

The Receiving Sections had either one or two microcomputers in use in 84 percent of the surveyed accounts. By far, the most predominant applications for a microcomputer in this section were those involved with interfacing with the S1100/60 mainframe. Twenty-seven percent of the accounts surveyed that had microcomputers in use in this section were using them for MOOPS, WKRP, automated post-post software, or some combination thereof. In addition, 35 percent of the Receiving Sections with microcomputers were reported to be using them for TIP transaction processing.

Although 60 percent of the surveyed accounts were not utilizing microcomputers in their Inspection Sections, the other 40 percent employed a variety of applications (See Appendix E). In addition to using general database applications, as reported for 33 percent of the Inspection Sections with microcomputers, the S1100/60 interface-related applications such as MOOPS (8%), automated post-post (17%), TIP (17%), and WKRP (25%) were also used in the Inspection Sections with microcomputers. Furthermore, the locally developed automated health hazard item listing was reported in use for 33 percent of the Inspection Sections with microcomputers.

While none of the accounts surveyed had microcomputers in use in the Pickup and Delivery Sections, a small percentage of the Storage and Issue Sections (20%) and the

Bench Stock Sections (20%) had at least one microcomputer in use. The main application reported for each of these sections was TIP with 83 percent of the Storage and Issue Sections with microcomputers and 50 percent of the Bench Stock Sections with microcomputers using it.

Operations Support Branch. The actual numbers of microcomputers and their location within the Operations Support Branches of the surveyed supply accounts are shown in Appendix C. When reviewing findings for the Operations Support Section of the Operations Support Branch, an important point to note is that while this section may incorporate the responsibilities of the Mission Support Section and War Readiness Section in the field, for the purposes of this study all three sections are addressed separately. Table 5 provides a general summary identifying the relative percentages of the surveyed supply accounts with the specified number of microcomputers in use in each of the various work sections:

Table 5. Percentage of Surveyed Supply Accounts with Specified Numbers of Microcomputers In Use in the Operations Support Branch

<u>Office/ Section</u>	<u>Numbers of Microcomputers</u>							
	0	1	2	3	4	5	6	7
LGSC	50	50	0	0	0	0	0	0
LGSCD	10	50	17	7	10	6	0	0
LGSCR	73	20	7	0	0	0	0	0
LGSCM	30	37	13	3	10	0	0	7
LGSCW	74	13	13	0	0	0	0	0
LGSCX	46	7	23	10	7	7	0	0

In contrast to the three branch offices mentioned earlier, 50 percent of the Operations Support Branch offices of the surveyed supply accounts had microcomputers in use. Once again, the main applications being used in this branch office work environment were word processing and database applications, reported for 100 percent and 20 percent of the Operations Support Branch offices with microcomputers, respectively.

The number of microcomputers in use in the Demand Processing Sections ranged from zero to five, with 67 percent of the sections currently using either one or two microcomputers. One of the main uses of microcomputers in these sections involved S1100/60 interface applications. Twenty-two percent of the Demand Processing Sections with microcomputers were using them for MOOPS, WKRP, and automated post-post applications. In addition, 44 percent of these sections were employing TIP applications. Furthermore, various automated research systems were reported to be in use by 56 percent of the accounts with microcomputers in their Demand Processing Sections (See Appendix E for specific automated research system names).

Although only 27 percent of the accounts surveyed had microcomputers in use in their Repair Cycle Support Sections, 38 percent of these sections used them for MOOPS applications. In addition, 38 percent of these sections also employed word processing software.

The number of microcomputers in use in the Mission Support Sections ranged from zero to seven. Fifty percent of the surveyed accounts, however, had either one or two microcomputers in use in these sections. Interface applications for use with the S1100/60 mainframe were common. Twenty-four percent of the Mission Support Sections with microcomputers were using MOOPS, WKRP, automated post-post, or some combination thereof. Moreover, 48 percent of the Mission Support Sections with microcomputers were employing TIP applications. Finally, 33 percent of the surveyed accounts with microcomputers in their Mission Support Sections were using them to access the Weapon System Management Information System (WSMIS).

Only 26 percent of the surveyed accounts reported using microcomputers in the War Readiness Sections. Of those sections using them, a variety of applications were in use including word processing (13%), database applications (13%), TIP (38%), MBIS (25%), and WSMIS access software (25%).

Fifty-four percent of the surveyed accounts reported using at least one microcomputer in their Operations Support Sections. By far the most utilized application involved transaction processing using TIP software, reported for 75 percent of the accounts with microcomputers in their Operations Support Sections. The second most frequently reported application was word processing, reported for 31

percent of the accounts with microcomputers in this section.

Chief of Supply and Squadron Section Offices. The actual numbers of microcomputers in the Chief of Supply and Squadron Section offices for the survey population are shown in Appendix C. Although Appendix C also includes two locally organized work units named the Microcomputer Unit, organized as a distinct unit in three of the surveyed accounts, and the Post-Post Team, mentioned by two of the surveyed accounts as having dedicated microcomputers, they were included in the appendix only for general information and data completeness and were not addressed in the summary tables. A summary of the survey data is displayed in Table 6 below, identifying the relative percentages of the surveyed supply accounts with the specified numbers of microcomputers in use in each of the offices:

Table 6. Percentage of Surveyed Supply Accounts with Specified Numbers of Microcomputers In Use in the Chief of Supply and Squadron Section offices

<u>Office/ Section</u>	<u>Numbers of Microcomputers</u>				
	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
LGS/LGSA	64	30	3	3	0
CCQ	71	23	3	0	3

As shown in Table 6, 36 percent of the Chief of Supply offices of the surveyed supply accounts were using microcomputers, while 29 percent of the Squadron Section offices were using them. The main application in use in both of these offices was word processing, reported in use

for 91 percent of the Chief of Supply offices and 100 percent of the Squadron Section offices that already were using microcomputers. The Squadron Section offices also used the microcomputer for various database applications (See Appendix E), as reported for 56 percent of the accounts surveyed that were using microcomputers in these offices.

Perceived Microcomputer Requirements

Research Questions 3, 4, and 5 were directed towards determining the basic microcomputer requirements in base-level supply accounts based on the opinions of the interviewed Management and Systems Officers. Research Question 3 was aimed at identifying which work sections the Management and Systems Officers believed could make meaningful increases in mission performance with the aid of microcomputers. Research Question 4 focused on determining the number of microcomputers required for the work sections the Management and Systems Officers believed could make productive use of them. Finally, Research Question 5 sought to determine what applications, in addition to the ones currently used, the Management and Systems Officers thought would be useful to introduce to further increase productivity. The answers to these questions and the authors conclusions pertaining to them are summarized according to the various branches of Base Supply.

Management and Systems Branch. The microcomputer requirements for the Management and Systems Branches of each

of the surveyed supply accounts, as perceived by the Management and Systems Officers in terms of numbers of microcomputers and their location within the branch, are shown in Appendix F. A summarization of this data is shown in Table 7 below:

Table 7. Percentage of Surveyed Management and Systems Officers Recommending the Specified Number of Microcomputers for use in the Management and Systems Branch

Office/ Section	Numbers of Microcomputers							
	0	1	2	3	4	5	6	7
LGSP	57	40	3	0	0	0	0	0
LGSPF	0	41	40	10	0	3	3	3
LGSPG	23	77	0	0	0	0	0	0
LGSPH	20	37	30	10	3	0	0	0
LGSPI	37	60	3	0	0	0	0	0
LGSPJ	7	50	13	7	13	7	3	0
LGSPK	13	10	34	20	17	3	3	0
LGSPA	57	33	10	0	0	0	0	0
LGSPR	80	17	3	0	0	0	0	0

A comparison of the Management and Systems Officers recommendations and the actual numbers of microcomputers and their locations in the Management and Systems Branches displayed in Table 2 in the Current Microcomputer Status section of this chapter indicated net changes not exceeding 10 percent in any section of the branch as shown in Table 7. In most of the work sections, the only changes pertained to placing one microcomputer in a section where there were currently none or adding a single microcomputer to a given section.

Two additional applications were proposed by the Management and Systems Officers as having the potential to

increase productivity. One application planned for by 30 percent of the Management and Systems Officers was the introduction of a local area network (LAN) system. The proposed LAN was described as needing to be able to link the Chief of Supply office, the branch offices, and selected work sections such as the Procedures and Analysis Section, together for information transfer, data sharing, and message transfer via electronic mail applications. The second application proposed by the Management and Systems Officer at Williams AFB, Arizona, involved optical disk storage and retrieval technology with the use of WORM (Write-Once, Read-Mostly) drives for use in the Document Control Section (See Appendices D and E).

Based on the percentages in Table 7, the applications data in Appendix E, and the subjective evaluation of the author, the following conclusions were drawn pertaining to the microcomputer requirements of the Management and Systems Branch:

1. The Management and Systems Branch office, including the Management and Systems Officer/NCOIC and secretary, will normally require one microcomputer for the data analysis and word processing applications currently in use. Although 57 percent of the interviewed officers did not recommend a microcomputer for this office, the author believes the potential benefits from the applications currently in use and the possible introduction of a LAN system demonstrate the usefulness of a microcomputer in this office.

2. The Procedures and Analysis Section will normally require one to two microcomputers for conducting analyses using the various data analysis programs designed for evaluating supply data, periodic requirements to query the S1100/60 database, and to produce supply charts for written

reports and the monthly "How Goes It" meeting. As shown in Table 7, 81 percent of the interviewed officers' recommendations lie within this range.

3. The Customer Service and Training Section will normally require one to two microcomputers. The findings in Table 7 support this conclusion as 67 percent of the Management and Systems Officers recommendations occurred within this range. One computer in each of the two units, the Customer Liaison Office (CLO) and the Training Office, may increase productivity, especially for those accounts that have the two units stationed in different locations. The CLO requires the capability to quickly access the S1100/60 mainframe to process inquiries in response to customer questions. In addition, local programs have also been developed for the CLO to automate the recording of customer question or complaint information, previously performed manually on paper forms. This application could improve the capability to analyze customer data for trends and to produce required reports in less time. The Training Office could use a microcomputer to automate training schedules, potentially improving the ability to update or change the schedule. In addition, the Training Unit may also use microcomputers for training new users on the basics of operating a microcomputer, word processing applications such as writing lesson plans, creating training aids, etc.

4. The Document Control Section will normally require one to two microcomputers for S1100/60 database queries, maintaining separate databases for weapons serial numbers, Communications Security (COMSEC) equipment data, and for local Document Control Card (DCC) and Shipment Suspense Card (SSC) programs. Sixty-three percent of the Management and Systems Officers interviewed made recommendations that fell within this range for the Document Control Section.

5. The Computer Operations Section will normally require two to four microcomputers for use with routine upload/download applications and special program control applications involving the S1100/60 mainframe. In addition, applications involving the automated post-post system software also require a microcomputer for system operation. The range of two to four microcomputers included 71 percent of the recommendations of the Management and Systems Officers interviewed.

6. The Funds Management Section will normally require one microcomputer, as recommended by 77 percent of the interviewed Management and Systems Officers. The Funds Management Section makes extensive use of spreadsheet applications involving local stock fund management and trend analysis and also uses the AGSOP program. The section also

uses S1100/60 interface software for database queries and running funds related transactions.

7. The Inventory Section should also have one microcomputer for use in running the IAP program, local programs, and S1100/60 interface applications, as recommended by 60 percent of the Management and Systems Officers interviewed.

8. Although 57 percent of the Management and Systems Officers did not recommend using a microcomputer in the Administration Section, the author believes the section should have one microcomputer for the multitude of word processing applications and database applications used to monitor the supply account's publications, forms, and files (See Appendix E).

9. Finally, since 80 percent of the Management and Systems Officers interviewed did not recommend a microcomputer for the Supply Readiness Center, it was determined to not require a permanently assigned microcomputer.

Materiel Management Branch. The microcomputer requirements for the Materiel Management Branches of the surveyed supply accounts, as perceived by the Management and Systems Officers in terms of numbers of microcomputers and their location within the Materiel Management Branch, are included in Appendix F. A summary of the Management and Systems Officers recommendations are found in Table 8 below:

Table 8. Percentage of Surveyed Management and Systems Officers Recommending the Specified Number of Microcomputers for use in the Materiel Management Branch

Office/ Section	Numbers of Microcomputers							
	0	1	2	3	4	5	6	7
LGSM	60	40	0	0	0	0	0	0
LGSMS	7	20	36	17	7	10	0	3
LGSME	13	60	17	7	3	0	0	0
LGSMR	10	0	13	36	27	7	7	0
LGSM	57	43	0	0	0	0	0	0
LGSMK	80	20	0	0	0	0	0	0

Similar to the Management and Systems Branch findings, the microcomputer requirements perceived as appropriate for the Materiel Management Branch by the Management and Systems Officers did not differ by more than 10 percent in any section (See Table 8 above) from the current number and location of microcomputers shown in Table 3 of the Current Microcomputer Status section of this chapter. Although most of the Management and Systems Officers were satisfied with their current numbers of microcomputers in this branch, many of the officers wanted to add an additional microcomputer to the Stock Control Section to ease the demand for access time.

The current microcomputer applications used in the Materiel Management Branch are included in Appendix E. The survey did not reveal any proposed applications under evaluation.

Base on the percentage information in Table 8, the applications data in Appendix E, and the subjective evaluation by the author, the following conclusions were derived:

1. The Materiel Management Branch office, including the Materiel Management Officer/NCOIC and secretary, will normally require one microcomputer for word processing and various database applications used for administrative purposes. Although this conclusion was supported by only 40 percent of the interviewed Management and Systems Officers, the author believes the potential efficiency gains in word processing applications and the potential benefits to be gained from the introduction of a LAN system make this judgment appropriate.

2. The Stock Control Section will normally require two to three microcomputers for the numerous Air Force and locally developed software programs and applications used to monitor supply programs. Although only 53 percent of the Management and Systems Officers recommendations occur within this range, the author believes the section would have enough applications between the two subordinate units (the Requisitioning Unit and Requirements Unit) to warrant at least two microcomputers. In addition, the fact that five of the officers mentioned a problem with access time in this section supports the possible addition of a third microcomputer.

3. The Equipment Management Section will normally require one to two microcomputers for the various Air Force developed programs and the growing number of locally developed programs (See Appendices D and E). This range included 77 percent of the officers interviewed.

4. The Retail Sales Section, including the Base Service Store, Individual Equipment Unit, and the Tool Issue Center, will normally require three to four microcomputers primarily for use with the BASS system. In addition, the section also uses microcomputers for S1100/60 interface applications, Air Force developed programs like the MBIS program, and locally developed programs for the Individual Equipment Unit operation. The range of three to four microcomputers included 63 percent of the Management and Systems Officers recommendations.

5. The Mobility Section, for those accounts that have one, may require one microcomputer for mobility bag-related inventory accounting purposes using the Air Force developed MBIS program. In addition, depending on local mission requirements, the management of Chemical Warfare Defense Equipment (CWDE) in terms of shelf-life tracking, etc. is likely to be more effective if automated with database programs. Although only 43 percent of the interviewed officers recommended a microcomputer for this section, 100 percent of the Mobility Sections using microcomputers were using MBIS. Furthermore, the accounts that did not recommend a microcomputer for this section may not have had a Mobility Section in operation in their particular account.

6. Finally, the Munitions Management Section, for those accounts that have one, may require one microcomputer for S1100/60 interface applications in both the on-line and off-line mode. Although only 20 percent of the interviewed officers recommended a microcomputer for this section, an undetermined number of the accounts did not have a Munitions Management Section in operation within the supply account.

Materiel Storage and Distribution Branch. The microcomputer requirements for the Materiel Storage and Distribution Branches of the surveyed supply accounts, as perceived by the Management and Systems Officers in terms of numbers of microcomputers and their location within the branch, are included in Appendix F. A summary of the perceived microcomputer requirements for this branch are shown in Table 9 below:

Table 9. Percentage of Surveyed Management and Systems Officers Recommending the Specified Number of Microcomputers for use in the Materiel Storage and Distribution Branch

<u>Office/ Section</u>	<u>Numbers of Microcomputers</u>				
	0	1	2	3	4
LGSD	67	33	0	0	0
LGSDR	10	67	20	0	3
LGSDI	57	40	3	0	0
LGSDD	0	0	0	0	0
LGSDS	73	17	10	0	0
LGSDB	73	27	0	0	0

Similar to the two previous branches discussed, the microcomputer requirements perceived by the Management and Systems Officers for the Materiel Storage and Distribution Branches of the surveyed supply accounts changed by a maximum of only 10 percent in any section (See Table 9 above) from the current number of microcomputers in the branch summarized in Table 4 of the Current Microcomputer Status section of this chapter.

The specific microcomputer applications in use in the Materiel Storage and Distribution Branch are included in

Appendix E. The survey did not reveal any additional applications that were not currently in use. The supply accounts that expressed an interest in obtaining an additional microcomputer for one of the given work sections were primarily interested in the S1100/60 interface capacity they would gain both on-line and off-line.

The following conclusions were deduced based on the percentage information in Table 9, the applications data in Appendix E, and the subjective evaluation of the author:

1. The Materiel Storage and Distribution Branch office, including the Materiel Storage and Distribution Branch Officer/NCOIC and Secretary, will normally require one microcomputer for word processing and various database applications. Although this conclusion was supported by only 33 percent of the interviewed Management and Systems Officers, the author feels the potential for increased efficiency using word processing and database applications and the potential benefits to be gained from the possible introduction of a LAN system warrant a microcomputer in this office.

2. The Receiving Section will normally require one microcomputer for S1100/60 interface applications in both the on-line and off-line mode. In addition, the section may also use various database applications such as the automated reverse post log. Sixty-seven percent of the interviewed Management and Systems Officers support this conclusion.

3. The Inspection Section will normally require one microcomputer for S1100/60 interface applications and a variety of database applications used to keep track of specially managed supplies such as health hazard items, etc. Although only 40 percent of the Management and Systems Officers interviewed agree with this conclusion, the author believes the variety of locally developed programs and potential applications related to automated research systems makes this section able to potentially increase productivity through the use of microcomputers.

4. Finally, since the potential microcomputer applications for the Pickup and Delivery Section seem remote, as evidenced by none of the Management and Systems Officers recommending the section for microcomputer use, no

microcomputer should be placed in the section. The Storage and Issue Section and the Bench Stock Section could possibly be assigned one microcomputer if local conditions warrant. Most of the potential applications for these two sections would center around S1100/60 interface applications, which could possibly be performed by sharing another section's microcomputer.

Operations Support Branch. The microcomputer requirements of the Operations Support Branches of the surveyed supply accounts, as perceived by the Management and Systems Officers in terms of numbers of microcomputers and their location within the branches, are included in Appendix F. The Appendix F data pertaining to the Operations Support Branch are summarized in Table 10 below:

Table 10. Percentage of Surveyed Management and Systems Officers Recommending the Specified Number of Microcomputers for use in the Operations Support Branch

Office/ Section	Numbers of Microcomputers							
	0	1	2	3	4	5	6	7+
LGSC	43	57	0	0	0	0	0	0
LGSCD	10	44	20	10	10	3	0	3
LGSCR	74	13	10	3	0	0	0	0
LGSCM	27	32	17	7	7	0	0	10
LGSCW	70	13	17	0	0	0	0	0
LGSCX	46	7	20	13	7	7	0	0

Analogous to the previous branches discussed, the microcomputer requirements believed to be appropriate for the Operations Support Branch by the Management and Systems Officers changed by only 3 to 10 percent from the current number and location of microcomputers within the specific work sections as evidenced by the information in Table 10.

The specific microcomputer applications used in the Operations Support Branch are included in Appendix E. The interviews did not reveal any proposed applications being evaluated to further increase productivity using microcomputers. The supply accounts that expressed an interest in obtaining an additional microcomputer for one of their work sections were primarily interested in the S1100/60 interface capacity they would gain.

Based on the percentage information in Table 10 above, the applications data in Appendix E, and the author's subjective evaluation, the following conclusions were drawn:

1. The Operations Support Branch office including the Operations Support Officer/NCOIC and secretary, will normally require one microcomputer. This conclusion was supported by 57 percent of the Management and Systems Officers interviewed. The main applications for a microcomputer in this office will likely involve data analysis and word processing applications.

2. The Demand Processing Section will normally require one to two microcomputers. This range included 64 percent of the interviewed Management and Systems Officers recommendations. The primary use will probably be in S1100/60 interface applications both on-line and off-line. In addition, the automated research system, automated post-post system, and telecommunication access to government information systems involving research function activities requires microcomputer capabilities.

3. The Repair Cycle Support Section will normally require one microcomputer for S1100/60 interface applications both on-line and off-line. Although only 13 percent of the interviewed officers support this conclusion, the author believes the personnel processing transactions on the S1100/60 mainframe will likely increase their productivity by having the capability to perform these tasks in an off-line mode with MOOPS or WKRP when needed. Although S1100/60 interface applications are of primary importance in this section, various reports, supply assistance messages, and other documentation potentially

produced by this section also lend themselves to the word processing capability of a microcomputer.

4. The Mission Support Section will normally require one to two microcomputers, primarily for S1100/60 interface applications, the automated research system (if applicable), the automated MICAP status update programs, and access to the WSMIS system. This range includes almost half (49%) of the interviewed Management and Systems Officers recommendations. In addition, the author believes the increased capability to access to the WSMIS network will aid personnel in locating scarce parts within the Department of Defense.

5. The War Readiness Section, including combinations of War Readiness Spares Kits (WRSK), Mission Support Kits (MSK), etc., will normally require one microcomputer primarily for S1100/60 interface applications both on-line and off-line, local database applications involving special program management, and access to the WSMIS system. Although this conclusion was supported by only 13 percent of the interviewed officers, the author believes the applications already in use provide sufficient benefit to warrant the placement of a microcomputer in the section.

6. The Operations Support Section, not including activities performed by the Mission Support Section or War Readiness Section discussed previously, will normally require two to three microcomputers, primarily for S1100/60 interface applications and access to the WSMIS system. This conclusion, while supported by only 33 percent of the interviewed officers whose recommendations occur within this range, is proposed by the author primarily to ensure customer service to the maintenance customers during periods when the S1100/60 mainframe is off-line. This number of recommended microcomputers could easily increase depending on the number of decentralized locations being supported.

Chief of Supply and Squadron Section Offices. The microcomputer requirements for the Chief of Supply offices and the Squadron Section offices of the surveyed supply accounts, as perceived by the Management and Systems Officers, are included in Appendix F. A summary of the Management and Systems Officers recommendations are found in Table 11:

Table 11. Percentage of Surveyed Management and Systems Officers Recommending the Specified Number of Microcomputers for use in the Chief of Supply and Squadron Section Offices

Office/ Section	Numbers of Microcomputers				
	0	1	2	3	4
LGS/LGSA	61	33	3	3	0
CCQ	67	27	3	0	3

The only change in the microcomputer requirements perceived by the Management and Systems Officers for these two offices, when compared to the actual number of microcomputers shown in Table 6 of the Current Microcomputer Status section of this chapter, involved a three percent increase in support for having one microcomputer in each of the offices. Although the introduction of a LAN network would likely affect the Chief of Supply offices and the Personnel Concept III system would probably influence the number of microcomputers in the Squadron Section offices, no additional applications were proposed.

Based on the percentage information in Table 11, the applications data in Appendix E, and the subjective evaluation of the author, the following conclusions were made:

1. The Chief of Supply office, including the Chief of Supply, Assistant Chief of Supply, and the secretary, will normally require at least one microcomputer, primarily for word processing applications. Although this conclusion was supported by only 33 percent of the Management and Systems Officers interviewed, the author believes the potential efficiency increases possible through word processing applications and the availability of data analysis programs for the Chief of Supply or Assistant Chief of Supply to use for data analysis purposes warrant the placement of a microcomputer in this office. Furthermore, if a local area

network is introduced, the microcomputer will likely be used for information dissemination purposes.

2. The Squadron Section office will normally require at least one microcomputer for various word processing tasks and database applications used for managing administrative duties. Though only 27 percent of the Management and Systems Officers supported this conclusion, the author believes the applications currently in use provide sufficient benefit to warrant the placement of a microcomputer in this office. In addition, the Squadron Section will likely have increased administrative responsibilities, formerly provided by the Base Consolidated Personnel Office, as part of the Personnel Concept III system that will utilize microcomputers and their telecommunication capabilities.

Microcomputer Planning Guide Validation

The planning guide was validated according to the methodology specified in Chapter III. The Management and Systems Officers who were contacted stated the guide was an accurate and useful product to aid in evaluating supply accounts' microcomputer needs. Six of the ten officers contacted mentioned they had also distributed copies of the guide to the other branch officers within their accounts for further evaluation.

Although no changes to the format or content were suggested, two of the officers mentioned they were already exploring new areas for microcomputer application based on ideas they developed after reviewing the various applications mentioned in the guide. The only other recommendation submitted during the validation process related to the usefulness of the guide concerned the need for a standard suite of software across the Air Force. The

officer felt that the usefulness of the applications that were locally developed may be hindered if the software they are written on is not widely used or available.

Additional Findings and Comments

The majority of the Management and Systems Officers interviewed were very knowledgeable about their own supply accounts use of microcomputers and very interested in finding additional applications to increase their productive potential in all areas of their accounts. However, many of the officers also mentioned the need for greater communication between supply accounts concerning the development and usefulness of locally developed software programs or unique applications.

This research study was undertaken to determine the current status and perceived requirements of microcomputers within base-level supply accounts in terms of three characteristics: identifying which work sections were making productive use of microcomputers, determining what numbers of microcomputers were considered appropriate for the work sections making productive use of them, and ascertaining what specific applications the microcomputers were being used for or projected to be used for. The compilation of this data into a document available to the base-level supply managers was the initial step towards building a body of knowledge to aid supply managers in

making more productive use of their microcomputers (See Appendix G).

Most of the interviewed officers found their current number of microcomputers and placement within their organizations to be appropriate. In many cases, the actual and perceived number of microcomputers for a particular work section showed the number of microcomputers to be different from another supply account's similar section by two or three machines. The author attributes this to two causes. First, the size of the accounts in terms of number of personnel assigned to the various sections may influence the Management and Systems Officer's opinion. Second, the number and variety of applications used in a particular section may vary greatly from one account to another, as discovered by the author during the interview process. Although these factors weren't specifically addressed in this study, it is felt they don't compromise the data collected or the determination of an appropriate number or range of microcomputers for a given section as a baseline figure because of the lack of changes determined necessary during the process of validating the planning guide. It is the author's belief that the representative number or range of microcomputers should be interpreted as a starting point for local managers to evaluate based on the current applications in use and their local needs.

A proposed microcomputer application mentioned by 30 percent of the interviewed officers was a local area network system for Base Supply. The officers saw this as the application most needed and most likely to have the greatest impact on increasing productivity. These officers mentioned that microcomputers have now been integrated into the SBSS working environment to a sufficient degree that their information management capabilities should be further exploited through a network system to increase their productive potential.

V. Recommendations

Specific Recommendations

The following six recommendations are suggested as appropriate steps to further the research in this thesis topic area and to help base-level supply managers make the most productive use of their microcomputers.

First, the Air Force Logistics Management Center (AFLMC), Gunter AFB, Alabama, should conduct periodic surveys of all base-level supply accounts to identify useful locally developed microcomputer applications for Air Force wide distribution. In addition, if any applications are identified as useful, but not of sufficient importance to warrant special attention by the AFLMC, they should still be publicized with applicable points of contact to increase information sharing between bases.

Second, the microcomputer planning guide in Appendix C should be reviewed by the AFLMC for possible dissemination. If found acceptable, the guide should be made available to all interested Air Force base-level supply managers both for the purposes of aiding their future microcomputer acquisition decisions and also to inform them of current microcomputer applications used in other supply accounts.

Third, if the planning guide is distributed to base-level supply managers, the information in the guide will need to be periodically updated to account for new

applications developed in the field or by the Air Force Logistics Management Center.

Fourth, all base-level supply accounts should be periodically notified of the proper channels to submit promising locally developed software programs or applications. The frequent personnel turnover and changing mission responsibilities common to the Air Force environment provide unique opportunities for new applications to be explored and developed.

Fifth, a similar study should be conducted of base-level supply accounts at overseas locations to determine the full range of microcomputer applications and software programs currently in use across the Air Force. In addition, this information may be useful in determining if any fundamental differences exist between CONUS supply accounts and overseas supply accounts concerning the degree of microcomputer usage and the perception of their influence on productivity.

Finally, the Small Computer Technical Centers within the various major commands should seriously explore the procurement of a standard local area network for base-level supply accounts as the next major step to increase productivity.

Appendix A: Interview Guide for
Management and Systems Officers

Background

1. Name.
2. Squadron.
3. Location.
4. How many years of supply experience do you have?
5. How many years have you held the position of Management & Systems Officer?
6. How long have you been assigned in your current unit of assignment?

Current Microcomputer Status

7. What work sections (i.e., Stock Control, MICAP, etc.) within your supply account currently have microcomputers in use?
8. How many microcomputers are located in each named section?
9. What specific applications are the microcomputers being used for in each named section?

Note: This answer needs to be very specific in terms of actual tasks. For example, possible tasks include maintaining a database for a particular management program, spreadsheet reports and/or analyses (name of reports/analyses), special program control monitoring (ex. ECC monitoring or mobility bag inventory control), management decision support systems programs, etc. The applications can be on locally developed software or applications using commercially available software packages.

Perceived Microcomputer Needs

10. Which work sections within your supply account do you feel require microcomputers in the sense that a microcomputer's availability and use would enable a meaningful increase in mission performance to occur?

11. For those work sections you believe require microcomputers, how many per work section would be required?
12. For those work sections you feel would be able to achieve meaningful increases in mission performance, what specific applications would they be used for in addition to the current applications (See note in item 9 above)?

Conclusion

13. Do you have any additional comments?
14. Are there any questions I can answer for you?

Definition

"Meaningful Increase in Mission Performance" is a concept subjectively determined by each interviewed Management & Systems Officer as an increase in mission performance within his supply account that would warrant the purposeful placement or acquisition of a microcomputer for a given work section.

Appendix B: HQ SAC/LGS Letter to HQ USAF/LEYS

The contents of this appendix are taken directly from Howard's thesis and are provided for additional insight into possible microcomputer applications in the base-level supply account (8:90-99).

SAC PROPOSALS FOR USE
OF MINI-COMPUTERS IN SUPPLY

(NOTE: This is a direct quotation of Attachment 1, HQ SAC/LGS Letter, Subject: Use of Mini-computers in Supply, to HQ USAF/LEYS, 9 July 1981.)

MANAGEMENT ANALYSIS SECTION.

A mini-computer would allow this section to maintain historical data indefinitely in memory of disk/tape storage. Such storage would be more readily retrievable and less burdensome to record and store than on present manually prepared worksheets or UNIVAC prepared listings. A linked printer module could produce hard copy data as required to forward to other offices/higher headquarters.

A computer would expand the capability of the section to perform real analysis and projections into logistics areas, rather than just compile data. Time savings to produce more and better analyses would be considerable.

Under Phase IV, a wire hookup with the main frame computer could load selected data directly into the analysis mini-computers in the analysis sections of different base supplies and higher headquarters can now be linked telephonically to transfer requested data without the need to mail listings or send messages.

Propose subject computers be used to store account statistical data to perform instant trend analysis of areas where unfavorable performance is suspected.

Use to assist in tracking of "How goes it" data for the chief of supply's monthly review. Storage and retrieval capability would provide for an accurate and timely review of performance indicators.

"How goes it" statistics.

Could be used in plotting trends and comparative data in the Analysis Section.

Further, utilization of the mini-computer as a statistician and slide maker would streamline the supply analysis functions. Additionally, one who is not a mathematician would need only be required to interpret data in lieu of being able to compute.

A computer system which can correlate, print, and trend/chart data received through management reports such as M24 and M32.

How goes it. Will provide the chief of supply with the capability to immediately identify deficient areas.

Key Management Indicators (KMI). Provide the chief of supply with a ready reference to compare statistical data against other Air Force bases.

Delivery time study. Provides management analysis current figures on average delivery times for priority issues.

Branch effectiveness report. Provides management analysis with current figures on manning.

FUNDS MANAGEMENT SECTION.

A mini-computer with add on printer in funds could be used to develop stock fund targets and annual budget programs much more quickly and accurately because all relevant data would be internally stored. Daily or as required updates for HHQ could be made on the spot. The volume of external files could be reduced from nearly four file cabinets to a desk drawer because all needed data would be stored in memory or disk/tape storage. Such frustrating operations as developing and updating the 3080 investment fund budget and justification could be readily accomplished if the data were computerized.

Trend data analysis. Provide the funds manager with current figures on the stock fund operation.

Compile information from schedules 1,2, & 4 of general support operating program. Provide funds a means to compute information from schedules 1, 2, & 4 of the general support operating program and compare to schedule 5. Approved general support operating program.

Funds management: This could be used by personnel to interrogate the organization, record area and MACR. This would really be ideal at End-of-Year Close Out. Mini-

computers could be used by Research, Retail Sales and Customer Liaison office to run inquiries. If these machines have a screen capacity, it would be a tremendous saving of DD Forms 1348-1, and to check location balances in Post-Post. It could also enable each area to perform individual input without the increased workload on keypunch and machine operators.

Could be used to record data and develop stock fund operating programs and track budget information.

TRAINING SECTION.

Training Schedules. Will provide the Training Section with a ready reference concerning required training, dates, quotas, and personnel that require training.

GMT Records.

A mini-computer could be effectively utilized within the training section to accumulate and maintain data required for the quarterly submission of the RCS: SAC-LGS(Q)8006, training effectiveness report. At the present time, this data is accumulated manually and requires the expenditure of approximately 10 manhours each time the report is submitted. A mini-computer would be of immeasurable value as this data could be easily accumulated each time a military member in and out processes through the Training Section.

A training mini-computer could also be effectively used in the OJT program to record training data, schedule upcoming CDC and WAPS tests, etc. A linked printer module would allow a hard copy training record, if necessary, such as when an individual goes PCS or on a mobility assignment. Mini-computer capability would be similar to the B3500 MMICS system, only better, because supply would be adaptable to our own squadron needs. If necessary and desireable, a telephone hookup with B3500 could be made, if programming language were similar.

Mechanically record AFR 50-10 training attendance. Although maintenance (66-1) units record attendance in MMICS, supply is expected to also retain attendance records. Eliminate external files of attendance.

Record ancillary training required by AFR 50-1, ancillary training is now recorded on AF Form 991. Training schedules and attendance records could be mechanically recorded.

Allow the capability to maintain personnel status by position numbers, the current training status (ancillary, CDC).

Maintain ancillary training, small arms training, evaluations, schedules, course exam, schedule CDC volume tests, 50-24 training, chemical training.

Maintain other training requirements for the squadron. This would enable the supply training section to have immediate access to above training data without referring to manual lists. This should save approximately 30 percent of the time required to compile data from external listings when providing data to customers. A computer printout listing all training data for an individual could be much nicer and quicker than providing the individual with several copies of training data.

FUELS MANAGEMENT BRANCH.

Action is being taken to obtain a mini-computer for use in the fuels branch. Intentions are to load gauging charts for all tanks and use the computer to convert measurements to gallons. All training/appointment requirements will be input. Product will go to each supervisor. Qualifications will be input with program to update. Mobility team members and equipment will be input. Fuels sampling and inspections will be loaded. Manning, projected loss & gains, reporting officials, scheduled leaves, and equipment status will be programmed. Additional uses of the computer are expected as our experience level increases.

Maintain all vehicle status, i.e., in or out of commission.

VDP, VDM, EWO limits.

Maintain all the training status of personnel to insure they are qualified or due for evaluation of a particular task.

Maintain meter readings on vehicles to perform analysis when large variances occur during an issue. This would be especially useful when the accountant is not on duty when the discrepancy occurs.

Consolidation of the CMAL for the various types of aircraft and governments authorized to be serviced by the fuels branch.

In the fuels area the mini-computer could be employed to monitor the Base Energy Conservation Program and fuel sample test data on equipment and facilities (hydrants, tanks). Further we could include maintenance of personnel training status and individuals requiring periodic task evaluation. Incorporate monitoring of the fuels branch's work orders with civil engineers.

Organize ground fuel consumption data.

MICAP MANAGEMENT SECTION.

Computer system programmed through a link by phone lines or satellite, which can automatically extract balances on S/B's which have MICAP's from any base where it is loaded, provide instantaneous status from depots and can talk through use of CRT with IM managers.

Store data presently maintained on SAC Form 259 and MICAP status boards. Data could be loaded by requisition number and weapon systems indicator and retrieved in like manner.

A mini-computer and printer in MICAP with a remote and printer in maintenance material control/MSL would considerably enhance direct aircraft supply support. Maintenance data and supply status could be loaded for stock number on aircraft tail number, stored in memory and updated as changes occur. Since both MSL and MICAP would have immediate access to status and more data than at present, the requirement to "Run the Boards" with each other would be ended. Present manual management products and files, such as the D23 and SAC Form 259 cards could be eliminated since all computer memory data could be dumped to disk/tape file. If hard copy information is required it could be printed as required.

A program to analyze all MICAP parts requests by cause code and start-stop time could be developed and bumped against the stored MICAP data to project anticipated time of next incident for that NSN and recommend stockage level changes to prevent it. The master SNUD could also be loaded on the mini-computer which would considerably speed up lateral support checks.

MICAP Analysis/Trends.

DOCUMENT CONTROL SECTION.

A mini-computer with large memory, or the capacity for add on disk/tape memory unit, could be used to record all transaction data necessary for research of future document retrieval, output only display terminals in inventory, stock control, receiving, retail sales, et al, could be linked by wire or telephone to permit computer transaction research and display of relevant data without having to sign out the actual documents themselves. A printer capability for inventory would eliminate having to write out M-10 transaction listings, a time consuming task.

The time savings of this computer system would be considerable, particularly if a method of non-manual input of data could be devised. With the UNIVAC 1050-II, perhaps a punchcard output with each document that could be used to load the information in the mini-computer. Under Phase IV, a wire hookup between the mainframe computer and the mini could fulfill this function automatically. Document storage would be a simple one time event, because with the required information computerized, the constant need to screen the document files (largely dictated by inspection requirements) could be eliminated. Manpower slots could be cut in document control as a result of full implementation of this system.

ADMINISTRATION SECTION.

Capability to maintain publications and forms, utilize for crossfeed comparisons, and analysis.

Additionally, local manning listing, detail roster, and training requirements could also be automated.

A mini-computer could be used as a central repository for miscellaneous checklists, inventories of office supplies, storage of appointment calendar data. Most importantly, a mini-computer could store every Air Force manual anyone in base supply could ever need. The appropriate data could be displayed on a cathode ray terminal (CRT) hooked into the mini-computer. Should a hard copy of the data be needed, a printing device could be tied in to print it out. The overall savings in paper and storage binders should be enormous.

Manning listing. Will provide current information on assigned supply personnel such as duty location, skill level, authorized vs on hand.

Additional duties listing & schedules, provide the commander with current duty roster on what personnel are assigned to monitor additional duties. For example, safety officer, self-inspection monitor, vehicle control officer, etc.

Recurring suspense schedules, provide administrative information to effectively monitor weekly, monthly, or quarterly recurring suspenses.

ORDERLY ROOM/ADMINISTRATION.

A mini-computer with add on printer would give the capability to record and retrieve personnel data for ancillary training, squadron and base details, projected appointments, leaves, APRs/OERs, awards, security clearances, immunization data, et al. The printer would

allow producing hard copies when required for administrative purposes.

A separate word processing printer could be added to this mini-computer to allow quicker, more professional, typing of repetitive correspondence that is now so time consuming, such correspondence includes, awards and decorations, newcomer's letters, notification letters for appointments, mobility processing, details, etc. The administrative time savings alone may result in reduction of one personnel position.

To insure maximum computer utilization, this mini-computer could be time shared with the LGSPT, training section.

Could be used in squadron admin to track forms requirements, publications and suspense files.

Administrative correspondence: A computer system to input control and recall correspondence. This system could be used by management to monitor the progress of correspondence requiring action/reply and be workers to print replies through CRT, which can then be typed by automatic typewriters.

Personnel management. Used to manage and control training/details/appointments, etc. to insure timely completions.

Capability to maintain personnel status by position numbers, the current training status (ancillary, CDC).

STOCK CONTROL SECTION.

Exception Code data.

A mini-computer with printer could be used to store name and phone number of item managers for each stock class and depot to accelerate follow up actions. All exception data could be loaded which would eliminate manual exception card files.

Current information on RODs, JBB/JBD, etc., items would be easier to maintain.

Store data maintained for exception code card decks eliminating the card decks and providing rapid retrieval of information.

Potential elimination of other manually maintained data decks exist as application is broadened.

PROCEDURES AND STANDARDIZATION SECTION.

P&S Surveillance Checklist. Allow for accurate expeditious updating. Provide management with an easily accessible Management Information System (MIS).

ROF Reporting. Provide current data on all organization identification codes, FAD codes, and other reporting organization file data for those activities assigned.

Personnel Management.

ALLOWANCE AND AUTHORIZATION SECTION.

Consolidated Table of Allowance file.

AF Form 538 file.

Equipment custodian file.

It might also be worthwhile to load up the T.A. on equipment items.

ADPE/PCAM OPERATION SECTION.

Provide a test bank for development of supply assembly language (SAL) utility programs 008 at base level. Selected records from the main computer (e.g., item, detail, repair cycle, etc.) would be uploaded to the mini-computer-- about 100 to 500 of each kind, as well as the current ACNS of 008, 007, 010, and 232. SAL Programs could be tested, perfected and modified on the mini-computer, leaving the main computer for pure processing, thus saving material and computer time.

The mini-computer could be tied into an alternate site computer, in case of the failure on one base's main computer.

It could be used much as current ET and DCT 2000 systems are, having necessary peripherals like a card reader, printer, and card punch hooked into the mini-computer. The records of one base's downed main computer could be transmitted to the alternate, and processing done through the mini-computer. This could be a cost-saving alternative to a base with a downed computer sending a team TDY to an alternative site.

A mini-computer could be used as an environmental and security monitor. Heating and air conditioning could be under program control, monitored by sensors throughout the supply building. Smoke/fire/poison gas monitors could be tied into a mini-computer, which could sound alarms and inform the fire department of emergencies in progress. Security alarms could monitor break-in attempts, and notify base security police in similar fashion. In case of danger

from lightening, tornadoes, earthquakes and the like, a computer could sound alarms and kill power faster than humanly possible.

ADPE utilization/downtime analysis.

Recurring AF Form 2011 file/monthly computer schedule.

Supply operations: A system of utilizing data output from the main computer to separate outstanding workload from routine listings, i.e., A management listing for the stock control officer to identify specifically only what work is outstanding such as priority due-outs without AFC actions, memo due-outs with TEX "7" and without, memo due-outs with REX "1" assigned, list of all item records with REX "1" potential problem items with priority due-outs and bad status, priority due-ins with follow-up codes below 96, etc. This management tool could be used to monitor workload and insure timely completion.

Use for maintaining daily and monthly computer schedules, code edits, ship destination records, computer distribution schedules, microfiche media (combination IL/ML/CRL) except on code cards, and weapon control files.

RECORDS MAINTENANCE SECTION.

AF Form 86 file.

Recommend loading of the stock list by part number and FIN to produce automated cross referencing, thus speeding research and reducing human error.

SPECIAL ASSET MANAGEMENT SECTION.

Mobility listing. Will be able to identify personnel assigned to mobility teams and provide the squadron mobility officer & NCO with an information file for personnel assigned to those teams. For example, eligibility, immunizations required, high threat area training etc.

WRSK Critical/Essential Items. Provide current information identifying those items designated as critical or essential to the WRSK in order to support mobility tasking.

WRSK/MSK Deployments: Mini-computers could possibly be used to record data during a deployment. This could replace the use of AF Form 2009-1 (Manual Accounting Form).

BENCH STOCK SUPPORT UNIT.

Bench Stock: Mini-computers could be used by Bench Stock to inventory and submit replenishment issues. This would save recording form requirements and keypunching 1BS cards.

DEMAND PROCESSING UNIT.

Demand Processing: Mini-computers could be used while taking routine issue requirements. Requests could be recorded on mini-computers and input later either through the remote or mainline. This would save hand scribing AF Form 2005, keypunching, etc.

INVENTORY SECTION.

Inventory: Cycle inventory locations could be transferred to mini-computers. Records could be displayed by location.

MATERIAL STORAGE AND DISTRIBUTION BRANCH.

Reusable containers could be accounted for on the mini-computer. The TPO number and quantity could be entered and eliminate the present confusion and time wasted to "hunt" for a container.

Compressed gas cylinders. An interrogation method could be implemented to provide an immediate reference for those cylinders becoming due hydrostatic testing for a given period. Availability of such information would provide accurate budget information and enhance the overall management of government-owned cylinders.

Scheme-CEM Equipment Management. A data base could be established for each scheme number to reflect the number of pieces received, transportation control number, date received, date issued, and date completed. The data base would remain available until the annual inventory is completed before deleting completed scheme number. An automated system would also provide a ready reference for an on hand scheme.

TCTO Number to NSN Cross Reference Data File. Establish a cross reference table for all affected stock numbers at the time of initial screening. The data base would remain on file until the item records are deleted or until the recision date of the TCTO is applicable.

RETAIL SALES SECTION.

Based upon associated software that comes with the mini-computer, the possibilities of placing the retail outlets in

a realtime mode would be fantastic. If programming could be effected that would allow input of a line number and quantity that would print a listing by stock number the customer could sign and a card output that could be used to update the 1050-II. It would also be a time saver.
(8:90-99)

Appendix C: Actual Microcomputer Quantities of
Surveyed Supply Accounts

Management and Systems Branch

<u>BASE</u>	<u>LGSP</u>	<u>PP</u>	<u>PF</u>	<u>PT</u>	<u>PI</u>	<u>PD</u>	<u>PC</u>	<u>PA</u>	<u>PR</u>
ALTUS	1	1	1	2	1	1	3	1	0
BERGSTROM	1	1	1	1	1	1	4	0	1
CARSWELL	0	1	1	1	0	1	3	1	0
CHARLESTON	1	2	0	0	0	1	0	2	0
COLUMBUS	0	2	1	2	0	0	2	1	0
DOVER	0	1	1	1	1	1	2	0	0
EAKER	0	1	0	1	1	3	3	1	0
F.E.WARREN	0	2	1	3	1	2	2	0	0
GRAND FORKS	0	1	1	1	1	4	4	0	0
GRIFFIS	2	3	1	2	0	4	4	1	0
HOLLOMAN	1	2	1	2	1	1	2	0	1
HOMESTEAD	0	1	1	0	1	1	4	0	1
K.I.SAWYER	1	2	1	2	1	2	2	1	0
KIRTLAND	0	2	1	0	0	2	1	0	0
LAUGHLIN	0	1	1	0	0	1	0	0	0
LITTLE ROCK	0	1	0	3	0	1	0	0	0
LUKE	1	2	1	1	1	1	2	0	0
MALMSTROM	0	1	0	0	0	0	1	0	0
MCCHORD	0	5	1	2	0	2	2	1	0
MT HOME	0	2	1	3	1	1	1	0	1
MYRTLE BEACH	0	1	1	2	1	1	1	0	2
NELLIS	0	3	0	1	1	1	6	0	0
PATRICK	0	2	0	0	0	4	0	0	0
PLATTSBURG	0	1	1	1	0	1	2	0	0
POPE	0	3	1	1	0	3	3	0	0
REESE	1	1	0	0	1	1	3	0	0
SHAW	0	1	1	1	1	2	2	0	1
TYNDALL	1	7	1	4	1	6	4	0	0
WHITEMAN	1	1	1	1	1	1	4	2	0
WILLIAMS	1	2	1	2	0	0	3	0	0

Mode	0	1	1	1	1	1	2	0	0
Range	0-2	1-7	0-1	0-4	0-1	0-6	0-6	0-2	0-2

Explanation of Office Codes:

LGSP - Management and Systems Branch office.
PP - Procedures and Analysis Section.
PF - Funds Management Section.
PT - Customer Service and Training Section.
PI - Inventory Section.
PD - Document Control Section.
PC - Computer Operations Section.
PA - Administration Section.
PR - Supply Readiness Center.

Materiel Management Branch

<u>BASE</u>	<u>LGSM</u>	<u>MS</u>	<u>ME</u>	<u>MR</u>	<u>MM</u>	<u>MK</u>
ALTUS	1	5	3	3	0	1
BERGSTROM	1	5	2	4	1	0
CARSWELL	1	1	1	3	0	0
CHARLESTON	0	1	1	0	1	0
COLUMBUS	0	2	1	2	0	0
DOVER	0	4	1	4	1	0
EAKER	0	2	2	4	0	0
F.E.WARREN	0	0	1	2	0	0
GRAND FORKS	0	2	1	6	0	0
GRIFFIS	0	2	0	5	0	0
HOLLOMAN	1	2	2	3	1	0
HOMESTEAD	0	1	1	3	1	0
K.I.SAWYER	0	3	1	3	0	0
KIRTLAND	0	2	0	3	0	0
LAUGHLIN	0	1	1	2	0	0
LITTLE ROCK	0	2	1	0	0	0
LUKE	1	1	1	4	1	0
MALMSTROM	0	0	0	0	0	0
MCCHORD	1	3	2	4	1	1
MT HOME	0	2	1	3	1	0
MYRTLE BEACH	0	1	1	3	1	0
NELLIS	0	1	1	3	1	0
PATRICK	0	2	1	3	1	1
PLATTSBURG	0	3	0	3	0	0
POPE	1	2	0	3	0	0
REESE	1	1	1	2	0	1
SHAW	0	1	1	4	1	0
TYNDALL	1	3	3	4	2	0
WHITEMAN	1	7	4	6	0	0
WILLIAMS	1	2	1	3	0	1

Mode	0	2	1	3	0	0
Range	0-1	0-7	0-4	0-6	0-2	0-1

Explanation of Office Codes:

LGSM - Materiel Management Branch office.
 MS - Stock Control Section.
 ME - Equipment Management Section.
 MR - Retail Sales Section.
 MM - Mobility Section.
 MK - Munitions Management Section.

Material Storage and Distribution Branch

<u>BASE</u>	<u>LGSD</u>	<u>DR</u>	<u>DI</u>	<u>DD</u>	<u>DS</u>	<u>DB</u>
ALTUS	1	1	0	0	0	0
BERGSTROM	0	1	1	0	0	0
CARSWELL	0	0	0	0	0	0
CHARLESTON	0	0	0	0	0	0
COLUMBUS	0	1	0	0	0	0
DOVER	0	1	0	0	0	0
EAKER	0	1	1	0	0	0
F.E.WARREN	0	2	0	0	0	1
GRAND FORKS	1	2	1	0	0	0
GRIFFIS	0	1	0	0	2	0
HOLLOMAN	0	1	1	0	0	0
HOMESTEAD	0	1	0	0	0	0
K.I.SAWYER	0	1	0	0	0	0
KIRTLAND	0	2	0	0	0	0
LAUGHLIN	0	1	0	0	0	0
LITTLE ROCK	0	1	1	0	0	0
LUKE	1	1	1	0	0	0
MALMSTROM	0	0	0	0	0	0
MCCHORD	1	1	0	0	0	1
MT HOME	0	0	0	0	0	0
MYRTLE BEACH	0	1	1	0	0	0
NELLIS	0	1	1	0	0	0
PATRICK	0	1	0	0	1	0
PLATTSBURG	0	2	0	0	0	1
POPE	0	1	0	0	1	0
REESE	1	1	1	0	0	0
SHAW	0	1	0	0	0	0
TYNDALL	1	2	1	0	1	1
WHITEMAN	1	4	2	0	2	1
WILLIAMS	0	1	1	0	2	1

Mode	0	1	0	0	0	0
Range	0-1	0-4	0-2	0	0-2	0-1

Explanation of Office Codes:

LGSD - Material Storage and Distribution Branch office.
 DR - Receiving Section.
 DI - Inspection Section.
 DD - Pickup and Delivery Section.
 DS - Storage and Issue Section.
 DB - Bench Stock Support Section.

Operations Support Branch

<u>BASE</u>	<u>LGSC</u>	<u>CD</u>	<u>CR</u>	<u>CM</u>	<u>CW</u>	<u>CX</u>
ALTUS	1	5	2	2	0	3
BERGSTROM	1	1	0	1	2	0
CARSWELL	1	0	0	0	1	0
CHARLESTON	1	1	0	0	0	2
COLUMBUS	0	1	0	4	0	0
DOVER	1	1	0	0	0	4
EAKER	0	3	0	2	2	0
F.E.WARREN	0	2	0	1	0	0
GRAND FORKS	1	2	0	0	0	5
GRIFFIS	0	1	0	2	0	3
HOLLOMAN	1	3	0	1	2	2
HOMESTEAD	0	1	0	4	0	2
K.I.SAWYER	0	1	1	1	0	1
KIRTLAND	0	4	0	1	1	0
LAUGHLIN	0	1	1	1	0	2
LITTLE ROCK	1	1	1	1	0	0
LUKE	1	1	0	0	0	3
MALMSTROM	0	0	0	0	0	0
MCCHORD	1	1	1	0	1	5
MT HOME	0	1	0	1	0	2
MYRTLE BEACH	0	2	0	1	1	1
NELLIS	0	0	0	7	0	0
PATRICK	0	5	0	0	0	0
PLATTSBURG	1	4	0	2	0	0
POPE	0	1	0	0	2	2
REESE	1	2	1	1	0	0
SHAW	0	1	0	4	0	4
TYNDALL	1	4	0	7	0	2
WHITEMAN	1	1	2	1	0	0
WILLIAMS	1	2	1	3	0	0

Mode	1	1	0	1	0	0
Range	0-1	0-5	0-2	0-7	0-2	0-5

Explanation of Office Codes:

LGSC - Operations Support Branch office.
 CD - Demand Processing Section.
 CR - Repair Cycle Support Section.
 CM - Mission Support Section.
 CW - War Readiness Section.
 CX - Operations Support Section.

Chief of Supply and Squadron Section Offices

<u>BASE</u>	<u>LGS</u>	<u>CCQ</u>	<u>Micro. Post-Post</u>	
			<u>Unit</u>	<u>Team</u>
ALTUS	1	1	0	0
BERGSTROM	1	2	0	0
CARSWELL	1	0	0	0
CHARLESTON	1	0	0	0
COLUMBUS	0	0	0	0
DOVER	0	0	0	0
EAKER	0	0	0	0
F.E.WARREN	0	0	0	0
GRAND FORKS	0	0	0	0
GRIFFIS	0	0	0	0
HOLLOMAN	1	1	1	3
HOMESTEAD	0	0	0	0
K.I.SAWYER	0	1	0	0
KIRTLAND	0	0	0	0
LAUGHLIN	0	0	0	0
LITTLE ROCK	0	0	0	0
LUKE	0	0	0	0
MALMSTROM	0	1	0	0
MCCHORD	2	1	0	0
MT HOME	1	1	0	0
MYRTLE BEACH	1	0	1	0
NELLIS	0	0	0	0
PATRICK	0	0	0	0
PLATTSBURG	0	0	0	0
POPE	0	0	0	0
REESE	1	0	0	0
SHAW	0	0	3	0
TYNDALL	3	4	0	2
WHITEMAN	0	0	0	0
WILLIAMS	1	1	0	0

Mode	0	0	0	0
Range	0-3	0-4	0-3	0-3

Explanation of Office Codes:

LGS - Chief of Supply/Assistant Chief of Supply/Secretary.
 CCQ - Squadron Section.

Micro. Unit - A locally organized unit at specific bases
 used specifically for software development.

Post-Post Team - Used in this data summary to indicate
 microcomputers set aside for post-post
 operations.

Appendix D: Locally Developed Microcomputer
Programs and Applications

The following list of software programs or unique applications was compiled from a survey of 30 base-level supply accounts within the CONUS during the period of April - June 1989. The list excludes software used to interface with the S1100/60 or software for use in post-post operations. The bases listed beneath each entry may or may not be the original software developer, but do currently use the named software. Points of contact for each supply account are listed with their autovon numbers on the last page of this appendix.

Automated CIC/EIC Image Program
-Mountain Home AFB, ID

Automated COMSEC Equipment Inventory Database
-F.E. Warren AFB, WY
-Grand Forks AFB, ND
-Homestead AFB, FL

Automated Customer Call-In Log/Complaint Software
-Dover AFB, DE
-Holloman AFB, NM (automated SF 44)

Automated Delivery Destination Database
-Columbus AFB, MS
-Patrick AFB, FL

Automated Electrostatic Sensitive Device (ESD) Database
-Little Rock AFB, AR

Automated FME Program for Deployment
-Bergstrom AFB, TX
-Laughlin AFB, TX
-Mountain Home AFB, ID
-Myrtle Beach AFB, SC
-Patrick AFB, FL
-Tyndall AFB, FL

Automated Health Hazard Item Database
-Bergstrom AFB, TX
-Griffis AFB, NY
-Laughlin AFB, TX
-Little Rock AFB, AR

Automated Local Manufacture Item Database
-Laughlin AFB, TX

Automated Publications Ordering System
-Columbus AFB, MS

Automated Reverse Post Log
-Griffis AFB, NY

Automated Stock Number User Directory (SNUD)
-Columbus AFB, MS

Automated Tail Number Bin (TNB) Inventory List
-Laughlin AFB, TX

Automated Time Change Technical Order (TCTO) Item Tracking
Program
-Bergstrom AFB, TX

Automated Weapons Serial Number Database
-Eaker AFB, AR
-Grand Forks AFB, ND
-Holloman AFB, NM
-Homestead AFB, FL
-McChord AFB, WA
-Mountain Home AFB, ID
-Patrick AFB, FL

Branch Performance Analysis Program
-Holloman AFB, NM

Call-In and Complaint Records Database
-Holloman AFB, NM

CD WORMS (Compact Disk - Write Once Read Mostly) Optical
Disk Storage and Retrieval System
-Proposed system will download DCC from the S1100/60
and catalogue by document number. Proposed system will have
real time on line capability. (Williams AFB, AZ)

Chemical Warfare Item Manufacture Date Database
-Mountain Home AFB, ID

CWDE Accountability Program
-Mountain Home AFB, ID

Customer Complaint Analysis Program
-Charleston AFB, SC
-Little Rock AFB, AR

Document Control Card (DCC) Program Software:

- Altus AFB, OK
- Bergstrom AFB, TX
- Grand Forks AFB, ND
- Griffis AFB, NY
- Holloman AFB, NM
- Homestead AFB, FL
- Laughlin AFB, TX
- Little Rock AFB, AR
- Luke AFB, AZ
- Mountain Home AFB, ID
- Nellis AFB, NV
- Patrick AFB, FL
- Pope AFB, NC
- Shaw AFB, SC
- Tyndall AFB, FL

DOD Material Safety Information Database

- Grand Forks AFB, ND

Equipment Custodian CA/CRL Management Program

- Dover AFB, DE
- Laughlin AFB, TX

Funds Requirement Card (FRC) Program (Locally Developed)

- Plattsburg AFB, NY
- Tyndall AFB, FL

Individual Equipment Unit (IEU) Processing Program

- Columbus AFB, MS
- Eaker AFB, AR
- Mountain Home AFB, ID
- Reese AFB, TX
- Shaw AFB, SC
- Williams AFB, AZ

Inventory History Database Program

- Homestead AFB, FL

Label making program for Health Hazard Items

- Little Rock AFB, AR

Label making program for Shelf-Life Items

- Luke AFB, AZ

Label making program for TCTO Items

- Luke AFB, AZ

M06 Monitoring Program

- Charleston AFB, SC

M10 Analysis Program
-Charleston AFB, SC

Management Indicators Analysis Program
-Charleston AFB, SC

Material Deficiency Report (MDR) Status Update Program
-Mountain Home AFB, ID

MICAP Status Update Program
-Holloman AFB, NM
-Mountain Home AFB, ID
-Nellis AFB, NV
-Shaw AFB, SC

Mobility Bag Tariff Guide (Spreadsheet)
-Griffis AFB, NY

Munitions Forecasting Spreadsheet Program
-Patrick AFB, FL

Personal Computer (PC) Training Program for New Users
-Nellis AFB, NV
-Shaw AFB, SC

Personnel Data Program
-Charleston AFB, SC

Post-Post Receipt Program
-Grand Forks AFB, ND
-Holloman AFB, NM

Receipt Not Due-In Analysis Program
-Bergstrom AFB, TX

Redistribution Order (RDO) Status Tracking Program
-Mountain Home AFB, ID

Regulation/Manuals Update Tracking Program
-Tyndall AFB, FL

Report Of Item Discrepancy (ROD) Monitorship Program
-Holloman AFB, NM
-Patrick AFB, FL

Requisition Exception (REX) Code Code Monitoring Program
-Charleston AFB, SC

Shelf-Life Tracking Program
-Mountain Home AFB, ID
-Myrtle Beach AFB, SC

Shipment Suspense Card (SSC) Program Software

- Holloman AFB, NM
- Homestead AFB, FL
- Luke AFB, AZ
- Tyndall AFB, FL

Squadron Information Management System

- Myrtle Beach AFB, SC (Proposed)
- Reese AFB, TX
- Tyndall AFB, FL

TAR Program Data Records

- Bergstrom AFB, TX

Weapons Accountability Program for Mobility

- Holloman AFB, NM

Zero Overpricing Program (ZOP) Monitorship Software

- Tyndall AFB, FL

Locally Developed Software - POC

<u>Base</u>	<u>Office Symbol</u>	<u>Autovon</u>
Altus AFB, OK	LGSP	866-6866
Bergstrom AFB, TX	LGSP	685-3805
Carswell AFB, TX	LGSP	739-7352
Charleston AFB, SC	LGSP	583-2435
Columbus AFB, MS	LGSP	742-7165
Dover AFB, DE	LGSP	435-6237
Eaker AFB, AR	LGSP	721-7438
F.E. Warren AFB, WY	LGSP	481-3092
Grand Forks AFB, ND	LGSP	362-3654
Griffis AFB, NY	LGSP	587-2051
Holloman AFB, NM	LGSP	867-7029
Homestead AFB, FL	LGSP	791-8668
K.I. Sawyer AFB, MI	LGSP	472-2242
Kirtland AFB, NM	LGSP	244-9545
Laughlin AFB, TX	LGSP	732-5221
Little Rock AFB, AR	LGSP	731-3025
Luke AFB, AZ	LGSP	853-7263
Malmstrom AFB, MT	LGSP	632-6006
McChord AFB, WA	LGSP	976-2437
Mountain Home AFB, ID	LGSP	857-6692
Myrtle Beach AFB, SC	LGSP	748-7321
Nellis AFB, NV	LGSP	682-2114
Patrick AFB, FL	LGSP	854-2668
Plattsburg AFB, NY	LGSP	689-7342
Pope AFB, NC	LGSP	486-2675
Reese AFB, TX	LGSP	838-3282
Shaw AFB, SC	LGSP	965-3545
Tyndall AFB, FL	LGSP	523-2133
Whiteman AFB, MO	LGSP	975-3032
Williams AFB, AZ	LGSP	474-5255

Appendix E: Current Microcomputer Applications of Base Supply

The following information is a consolidated list of microcomputer software and applications reported by the Management and Systems Officers for the 30 base-level supply accounts surveyed. The percentage figure below each office symbol shows the percentage of surveyed accounts that had at least one microcomputer in use in the given section. The percentage figure to the right of each of the applications shows the percentage of accounts that were using the specific software or application among the accounts that had a microcomputer assigned to the work section. Although the main General Use applications (Word Processing, Database and Spreadsheets) list examples of specific applications in use, the percentage figure does not necessarily apply to all of the examples listed.

MANAGEMENT AND SYSTEMS BRANCH	
<u>Section</u>	<u>Applications</u>
<u>LGSP</u> (37%)	<u>General Uses:</u> -Word Processing.....(100%) -Branh correspondence -Checklists -Messages -Reports -Database.....(36%) -Leave schedules -Personnel data lists -Suspense lists -Spreadsheet.....(9%) -Supply data charts <u>Air Force Developed Software/Application:</u> -WSMIS ac...s software.....(9%) <u>Locally Developed Software/Applications:</u> -Regulations/Manuals Update Tracking Program.....(9%) -Squadron Information Management System.....(18%) <u>Proposed Applications:</u> -Electronic Mail capability for all branches and sections..... N/A -Local Area Network (LAN) or similar for all branch offices, the Chief of Supply and locally determined

<u>LGSPP</u> (100%)	<u>General Uses:</u> -Word Processing (83%) -Access authorization lists -Checklists -Local regulations -Messages/reports -Operating instructions -Surveillance reports -Database..... (13%) -DIREP listing -Personnel data records -Suspense list -Vehicle status records -Spreadsheets..... (87%) -Supply data analysis using spreadsheets -Supply data charts -Delivery response time report <u>S1100/60 Interface software:</u> -Automated Post-Post..... (10%) -MOOPS..... (10%) -TIP..... (23%) -WKRP..... (7%) <u>Air Force Developed Software/Applications:</u> -IAP..... (37%) -MIAM..... (7%) -M16 Analysis Program..... (7%) -M32 Analysis Program..... (27%) -WSMIS access software..... (3%) <u>Locally Developed Software/Applications:</u> -Branch Performance Analysis Report..... (3%) -Customer Complaint Analysis..... (7%) -Management Indicators Analysis Program. (3%) -M10 Analysis..... (3%) -Personnel Data Program..... (3%) -Receipt Not Due-in Data Analysis Program..... (3%)
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<u>LGSPF</u> (77%)	<u>General Uses:</u> -Word Processing.....(30%) -Letters -Messages -Spreadsheet.....(91%) -Breakdown of GSD sales by customer -Forecasting -GSD credit returns (local) by customer -GSD Cumulative totals Breakout of FY Actual -GSD Gain/Loss and Percent Credit Returns Analysis Breakout of FY Actual -GSD Monthly Change Breakout of FY Actual -GSD Net Demands to Obligations Breakout of FY Actual -GSD Operating Program Actual Monthly Operation Schedule 5 -GSD Operating Program Breakout of FCP Actual -Quantitative analysis -Supply data charts -Trend analysis <u>S1100/60 Interface Software:</u> -TIP.....(35%) <u>Air Force Developed Software/Applications:</u> -AGSOP.....(48%) -IAP.....(3%)
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<u>LGSPT</u> (77%)	<u>General Uses:</u> -Word Processing..... (65%) -Lesson Plans -Letters -Reports -Database..... (43%) -Flightline badge holders list -Local purchase issues list -Training Record Data lists -Training Schedules/Attendance Records -Spreadsheets..... (4%) -Supply data charts
	<u>S1100/60 Interface Software:</u> -Automated Post-Post (for batch inquiries)..... (4%) -MOOPS (for batch inquiries)..... (4%) -TIP (inquiries, etc.)..... (30%) -WKRP (for batch inquiries)..... (13%)
	<u>Air Force Developed Software/Applications:</u> -OJT CDC Pre-Test Program..... (35%) -PATS..... (9%) -SMART..... (13%)
	<u>Locally Developed Software/Applications</u> -Call-in and Complaint Records (Automated SF 44)..... (9%) -PC Training Program for New Users..... (9%) -Zero Overpricing Program Monitorship Software..... (4%)

<u>LGSPI</u>	<u>General Uses:</u>	
(57%)	-Word Processing.....	(29%)
	-Letters	
	-Reports	
	-Database.....	(6%)
	-Inventory suspense list	
	-Spreadsheet.....	(12%)
	-Supply data charts	
	<u>S1100/60 Interface Software:</u>	
	-Automated Post-Post.....	(18%)
	-TIP.....	(59%)
	-WKRP.....	(6%)
	<u>Air Force Developed Software/Applications:</u>	
	-IAP.....	(71%)
	<u>Locally Developed Software/Applications</u>	
	-Automated CIC and EIC image program....	(6%)
	-Inventory History Database Program....	(6%)

LGSPD
(90%)

General Uses:

-Word Processing.....(4%)
-Reports
-Letters

-Database.....(33%)
-Personnel Authorized to Receipt
for Weapons list
-Personnel Authorized to Receipt
for Classified Property list

31100, 60 Interface Software:

-MOOPS.....(7%)
-TIP.....(26%)
-WGRP.....(15%)

Air Force Developed Software/Applications:

-Microform System.....(22%)

Locally Developed Software/Applications:

-Automated COMSEC Equipment Inventory
Database.....(11%)
-Automated Weapons Serial Number
Database.....(26%)
-Document Control Card (DCC) Program
Software.....(56%)
-Shipment Suspense Card (SSC) Program
Software.....(15%)

Proposed Applications:

-CD WORM (Compact Disk - Write
Once/Read Mostly) optical disk storage
and retrieval system.....N/A

<u>LGSPC</u>	<u>General Uses:</u>
(87%)	-Word Processing.....(15%)
	-Letters
	-Reports
	-Database.....(31%)
	-AF Form 2011 listing
	-S1100/60 Report Scheduling
	<u>S1100/60 Interface Software:</u>
	-Automated Post-Post.....(42%)
	-MOOPS.....(27%)
	-TIP (Emulation Software).....(81%)
	-WKRP.... (19%)
	<u>Locally Developed Software/Applications</u>
	-Automated Stock Number Users Directory
	(SNUD).....(4%)
	-PC Training Program for New Users.....(3%)
	(Note: Also see LGSPT local programs.)

<u>LGSPA</u> (30%)	<u>General Uses:</u> -Word Processing.....(100%) -Letters -Master delegation of authority letters -Master file plans for squadron -Messages -Personnel recall rosters -Publications/Forms lists -Reports -Squadron Operating Instructions -Squadron Publications list -Squadron telephone listing -Suggestion Program monitorship data -Database.....(33%) -Suspense list <u>Locally Developed Software/Applications:</u> -Automated Publications Ordering System.....(11%)
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<u>LGSPR</u> (20%)	<u>General Uses:</u> -Word Processing.....(17%) -Reports -Database.....(67%) -Mobility training records (Shot records, special training, etc.) <u>Air Force Developed Software/Applications:</u> -DMAS.....(33%) -MRRR Program (in TAC) - specifies mobility requirements for a given UTC.(17%) -WSMIS access software.....(33%)
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MATERIEL MANAGEMENT BRANCH

<u>Section</u>	<u>Application</u>
<u>LGSM</u> (37%)	<u>General Uses:</u> -Word Processing.....(100%) -Branch correspondence -Checklists -Messages -Reports -Database.....(18%) -Leave schedules -Personnel data lists -Suspense lists -Spreadsheet.....(9%) -Supply data charts

LGSMS
(93%)

General Uses:

- Word Processing.....(36%)
 - Letters
 - Messages
 - Reports
- Database.....(32%)
 - Data files on local purchase items
 - Data files on special levels
 - DRMO inventory/withdrawal listing
- Spreadsheet.....(14%)
 - Excess item stratification
 - Statistical analysis
 - Supply data charts

S1100/60 Interface Software:

- Automated Post-Post.....(11%)
- MOOPS.....(29%)
- TIP.....(36%)
- WGRP.....(29%)

Air Force Developed Software/Applications:

- ECC Program.....(79%)
- FRC Program.....(64%)
- Order & Ship Time Program (SAC).....(4%)

Locally Developed Software/Applications:

- Automated Reverse Post Log.....(4%)
- FRC Program (locally developed).....(7%)
- Material Deficiency Report (MDR) Status
Update Program.....(4%)
- Receipt Not Due-In Tracking Program....(4%)
- Report of Item Discrepancy Monitorship
Program(7%)
- Requisition Exception (REX) code
Monitoring Program.....(4%)
- Tar Program Data Records.....(4%)

LGSME
(83%)

General Uses:

- Word Processing.....(28%)
 - Letters
 - Reports
- Database.....(44%)
 - Allowance Source Code Lists
 - List of pallets/nets
 - P-deck listing
 - Table of Allowance (TA) review
date tracking
 - Turn-in suspense tracking list
 - Vehicle management data files

S1100/60 Interface Software:

- Automated Post-Post.....(4%)
- MOOPS.....(12%)
- TIP.....(36%)
- WGRP.....(16%)

Air Force Developed Software/Applications:

- AFEMS Requirements Screen Prototype....(4%)
- Automated AF Form 600 log.....(52%)
- MBIS.....(8%)
- SMART.....(4%)

Locally Developed Software/Applications:

- Automated FME Program for Deployment..(24%)
- Equipment Custodian CA/CRL management
program.....(8%)
- M06 monitoring program.....(4%)
- Redistribution Order (RDO) Status
Tracking Program.....(4%)

<u>LGSMR</u>	<u>General Uses:</u>
(90%)	-Word Processing.....(19%)
	-Letters
	-Database.....(15%)
	-Customer authorization listings
	-Mobility bag tasking
	-Warranty Records data
	<u>S1100/60 Interface Software:</u>
	-MOOPS.....(7%)
	-TIP.....(11%)
	-WGRP.....(11%)
	<u>Air Force Developed Software/Applications:</u>
	-BASS.....(100%)
	<u>Locally Developed Software/Applications:</u>
	-Automated Stock Number User Directory
	(SNUD).....(4%)
	-Individual Equipment Unit (IEU)
	Processing Program.....(22%)
	-Mobility Bag Tariff Guide Program.....(4%)

<u>LGSM</u>	<u>Air Force Developed Software/Applications:</u>
(43%)	-MBIS.....(100%)
	-SMART.....(8%)

	<u>Locally Developed Software/Applications</u>
	-Automated Weapons Accountability
	Program for Mobility.....(8%)
	-CWDE Accountability Program.....(8%)
	-Chemical Warfare Item Manufacture date
	Tracking Program.....(8%)
	-Shelf-life Tracking Program.....(15%)

<u>LGSM</u>	<u>S1100/60 Interface Software:</u>
(17%)	-MOOPS.....(20%)
	-TIP.....(40%)
	-WGRP.....(20%)

	<u>Locally Developed Software/Applications:</u>
	-Munitions Forecasting Spreadsheet
	Program.....(20%)

MATERIEL STORAGE AND DISTRIBUTION BRANCH

<u>Section</u>	<u>Application</u>
<u>LGSD</u> (23%)	<u>General Uses:</u> -Word Processing.....(100%) -Branh correspondence -Checklists -Messages -Reports -Database.....(14%) -Leave schedules -Personnel data lists, -Suspense lists -Training status lists -Warehouse badge records/data list -Spreadsheet.....(14%) -Supply data charts

<u>LGSDI</u> (40%)	<u>General Uses:</u> -Word Processing.....(17%) -Letters -Reports -Database.....(33%) -Suspect item list -Spreadsheet.....(8%) -Supply data charts <u>S1100/60 Interface Software:</u> -Automated Post-Post.....(17%) -MOOPS.....(8%) -TIP.....(17%) -WKRP.....(25%) <u>Air Force Developed Software/Applications:</u> -Automated Research (CD ROM, etc.).....(25%) -WSMIS access software.....(8%) <u>Locally Developed Software/Applications:</u> -Automated Electrostatic Sensitive Device (ESD) Database.....(8%) -Automated Health Hazard Item listing..(33%) -Automated TCTO Item Tracking Database..(8%) -DOD Material Safety Information Database.....(8%) -Label making program for Health Hazard items.....(8%) -Label making program for Shelf-Life items.....(8%) -Label making program for TCTO items and Shelf-life items.....(8%)
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<u>LGSDR</u> (87%)	<u>General Uses:</u> -Database.....(4%) -Reverse post log -TCTO and Health Hazard item tracking <u>S1100/60 Interface Software:</u> -Automated Post-Post.....(27%) -MOOPS.....(27%) -TIP.....(35%) -WKRP.....(27%) <u>Locally Developed Software/Applications:</u> -Post-Post Receipt Program.....(8%) -Report of Item Discrepancy (ROD) Monitorship Program(8%)
<u>LGSDD</u> (0%)	No Applications Reported.
<u>LGSDS</u> (20%)	<u>S1100/60 Interface Software</u> -MOOPS.....(33%) -TIP.....(83%)
<u>LGSDB</u> (20%)	<u>S1100/60 Interface Software:</u> -MOOPS.....(33%) -TIP.....(50%) -WKRP.....(33%)

OPERATIONS SUPPORT BRANCH

<u>Section</u>	<u>Application</u>
<u>LGSC</u> (50%)	<u>General Uses:</u> -Word Processing.....(100%) -Branch correspondence -Checklists -Messages -Reports -Database.....(20%) -Leave schedules -Personnel data lists -Suspense lists -Spreadsheet.....(13%) -Supply data charts <u>Air Force Developed Software/Applications:</u> -WSMIS access software.....(7%)
<u>LGSCD</u> (90%)	<u>General Uses:</u> -Word Processing.....(19%) -Quick Reference Lists (QRL) -Database.....(7%) -Item Manager phone number list <u>S1100/60 Interface Software:</u> -Automated Post-Post.....(22%) -MOOPS.....(22%) -TIP.....(44%) -WKRP.....(22%) <u>Air Force Developed Software/Applications:</u> -Automated Research Systems (CD ROM, Haystack, Parts Master).....(56%) -DO43 System access software.....(19%) -FEDLOG System access software.....(7%) -Technical Logistics Reference Network (TLRN) access software.....(4%) <u>Locally Developed Software/Applications</u> -Automated Delivery Destination Database.....(7%) -Automated Stock Number User Directory (SNUD).....(4%)

<u>LGSCR</u>	<u>General Uses:</u>	
(27%)	-Word Processing.....	(38%)
	-Letters	
	-Messages	
	-Reports	
	<u>S1100/60 Interface Software:</u>	
	-Automated Post-Post.....	(38%)
	-MOOPS.....	(38%)
	-TIP.....	(25%)
	-WGRP.....	(38%)

<u>LGSCM</u>	<u>General Uses:</u>	
(70%)	-Word Processing.....	(14%)
	-Leave schedules, work schedules	
	-Letters	
	-Quick Reference Lists (QRL)	
	-Reports	
	-Spreadsheet.....	(10%)
	-Reports	
	-Supply data charts	
	<u>S1100/60 Interface Software:</u>	
	-Automated Post-Post.....	(24%)
	-MOOPS.....	(24%)
	-TIP.....	(48%)
	-WGRP.....	(24%)
	<u>Air Force Developed Software/Applications:</u>	
	-MAST.....	(19%)
	-WSMIS access software.....	(33%)
	<u>Locally Developed Software/Applications</u>	
	-Automated Local Manufacture Item	
	Database.....	(5%)
	-MICAP Status Update Program.....	(21%)

<u>LGSCW</u>	<u>General Uses:</u>	
(27%)	-Word Processing.....	(13%)
	-Reports	
	-Database.....	(13%)
	-Functional check items pending action list	
	-Tail Number Bin (TNB) Inventory List	
	<u>S1100/60 Interface Software:</u>	
	-Automated Post-Post.....	(13%)
	-MOOPS.....	(13%)
	-TIP.....	(38%)
	-WGRP.....	(25%)
	<u>Air Force Developed Software/Applications:</u>	
	-Automated DD Form 1387-2 Form.....	(13%)
	-DMAS.....	(13%)
	-MIS.....	(25%)
	-WSMIS access software.....	(25%)

<u>LGSCX</u>	<u>General Uses:</u>	
(Also	-Word Processing.....	(31%)
see	-Letters	
previous	-Reports	
sections		
that		
are		
sometimes		
incorporated		
into this	<u>S1100/60 Interface Software:</u>	
section.)	-Automated Post-Post.....	(25%)
(53%)	-MOOPS.....	(31%)
	-TIP.....	(75%)
	-WGRP.....	(13%)
	<u>Air Force Developed Software/Applications:</u>	
	-WSMIS access software.....	(13%)
	<u>Locally Developed Software/Applications:</u>	
	-Automated Tail Number Bin (TNB) Inventory List.....	(6%)

CHIEF OF SUPPLY AND SQUADRON SECTION OFFICES

<u>Office</u>	<u>Application</u>
<u>LGS/LGSA</u>	<u>General Uses:</u>
(37%)	-Word Processing.....(91%)
	-Chief of Supply appointment calendar
	-Common database of delegated responsibilities for the account
	-General correspondence
	-Spreadsheet.....(18%)
	-Supply data charts
<u>CCO</u>	<u>General Uses:</u>
(30%)	-Word Processing.....(100%)
	-Awards and decorations
	-Letters
	-Performance reports
	-Reports
	-Database.....(56%)
	-Personnel Data Records
	-Suspense lists
	<u>Proposed Applications:</u>
	-Personnel Concept III.....N/A

Appendix F. Perceived Microcomputer Requirements
of Base Supply

Management and Systems Branch

<u>BASE</u>	<u>LGSP</u>	<u>PP</u>	<u>PF</u>	<u>PT</u>	<u>PI</u>	<u>PD</u>	<u>PC</u>	<u>PA</u>	<u>PR</u>
ALTUS	1	1	1	2	1	1	3	1	0
BERGSTROM	1	2	1	1	1	1	4	0	1
CARSWELL	0	1	1	1	0	1	3	2	0
CHARLESTON	1	2	0	0	0	1	0	2	0
COLUMBUS	0	2	1	2	0	0	2	1	0
DOVER	0	1	1	1	1	1	2	0	0
EAKER	0	1	0	1	1	3	3	1	0
F. E. WARREN	0	2	1	3	1	2	2	1	0
GRAND FORKS	0	1	1	1	1	4	5	0	0
GRIFFIS	2	3	1	2	0	4	4	1	0
HOLLOMAN	1	2	1	2	1	1	2	0	1
HOMESTEAD	0	1	1	0	1	5	4	0	1
K. I. SAWYER	1	2	1	2	1	2	2	1	0
KIRTLAND	0	2	1	0	0	2	1	0	0
LAUGHLIN	0	1	1	2	1	1	0	1	0
LITTLE ROCK	0	1	0	3	0	1	0	0	0
LUKE	1	6	1	1	1	1	2	0	0
MALMSTROM	1	1	0	0	0	0	1	0	0
MCCHORD	0	5	1	2	0	2	2	1	0
MT HOME	0	2	1	3	1	1	1	0	1
MYRTLE BEACH	0	2	1	2	2	1	2	1	2
NELLIS	0	3	0	1	1	1	6	0	0
PATRICK	0	2	0	0	0	4	0	0	0
PLATTSBURG	0	2	1	1	1	1	2	1	0
POPE	1	3	1	1	0	3	3	0	0
REESE	1	1	0	0	1	1	3	0	0
SHAW	0	1	1	1	1	5	2	0	1
TYNDALL	1	7	1	4	1	6	4	0	0
WHITEMAN	1	1	1	1	1	1	4	2	0
WILLIAMS	1	2	1	2	0	4	3	0	0

Mode	0	1	1	1	1	1	2	0	0
Range	0-1	1-7	0-1	0-4	0-2	0-6	0-6	0-2	0-2

Explanation of Office Codes:

LGSP - Management and Systems Branch office.
 PP - Procedures and Analysis Section.
 PF - Funds Management Section.
 PT - Customer Service and Training Section.
 PI - Inventory Section.
 PD - Document Control Section.
 PC - Computer Operations Section.
 PA - Administration Section.
 PR - Supply Readiness Section.

Materiel Management Branch

<u>BASE</u>	<u>LGSM</u>	<u>MS</u>	<u>ME</u>	<u>MR</u>	<u>MM</u>	<u>MK</u>
ALTUS	1	5	3	3	0	1
BERGSTROM	1	5	2	4	1	0
CARSWELL	1	1	1	3	0	0
CHARLESTON	0	1	1	0	1	0
COLUMBUS	0	2	1	2	0	0
DOVER	0	4	1	4	1	0
EAKER	0	2	2	4	0	0
F.E. WARREN	0	0	1	2	0	0
GRAND FORKS	0	2	1	6	0	0
GRIFFIS	0	2	1	5	0	0
HOLLOMAN	1	2	2	3	1	0
HOMESTEAD	0	1	1	3	1	0
K.I. SAWYER	0	5	1	5	0	0
KIRTLAND	0	2	0	3	0	0
LAUGHLIN	0	2	2	2	0	1
LITTLE ROCK	0	2	1	0	0	0
LUKE	1	4	1	4	1	0
MALMSTROM	1	0	0	0	0	0
MCCHORD	1	3	2	4	1	1
MT HOME	0	2	1	3	1	0
MYRTLE BEACH	0	1	1	3	1	0
NELLIS	0	1	1	3	1	0
PATRICK	0	3	1	4	1	1
PLATTSBURG	0	3	0	3	0	0
POPE	1	2	0	3	0	0
REESE	1	1	1	2	0	1
SHAW	0	3	1	4	1	0
TYNDALL	1	3	3	4	2	0
WHITEMAN	1	7	4	6	0	0
WILLIAMS	1	2	1	3	0	1

Mode	0	2	1	3	0	0
Range	0-1	0-7	0-4	0-6	0-2	0-1

Explanation of Office Codes:

LGSM - Materiel Management Branch office.
 MS - Stock Control Section.
 ME - Equipment Management Section.
 MR - Retail Sales Section.
 MM - Mobility Section.
 MK - Munitions Management Section.

Materiel Storage and Distribution Branch

<u>BASE</u>	<u>LGSD</u>	<u>DR</u>	<u>DI</u>	<u>DD</u>	<u>DS</u>	<u>DB</u>
ALTUS	1	1	0	0	0	0
BERGSTROM	0	1	1	0	0	0
CARSWELL	1	0	0	0	0	0
CHARLESTON	0	1	0	0	0	0
COLUMBUS	0	1	0	0	0	0
DOVER	0	1	0	0	0	0
EAKER	0	1	1	0	0	0
F.E. WARREN	0	2	0	0	0	1
GRAND FORKS	1	2	1	0	0	0
GRIFFIS	0	1	0	0	2	0
HOLLOMAN	0	1	1	0	0	0
HOMESTEAD	0	1	0	0	0	0
K.I. SAWYER	0	1	0	0	0	0
KIRTLAND	0	2	0	0	0	0
LAUGHLIN	0	1	1	0	1	1
LITTLE ROCK	0	1	1	0	0	0
LUKE	1	1	1	0	0	0
MALMSTROM	1	0	0	0	0	0
MCCHORD	1	1	0	0	0	1
MT HOME	0	0	0	0	0	0
MYRTLE BEACH	0	1	1	0	0	0
NELLIS	0	1	1	0	0	0
PATRICK	0	1	0	0	1	0
PLATTSBURG	0	2	0	0	0	1
POPE	1	1	0	0	1	0
REESE	1	1	1	0	0	0
SHAW	0	1	0	0	1	1
TYNDALL	1	2	1	0	1	1
WHITEMAN	1	4	2	0	2	1
WILLIAMS	0	2	1	0	2	1

Mode	0	1	0	0	0	0
Range	0-1	0-4	0-2	0	0-2	0-1

Explanation of Office Codes:

LGSD - Materiel Storage and Distribution Branch office.
 DR - Receiving Section.
 DI - Inspection Section.
 DD - Pickup and Delivery Section.
 DS - Storage and Issue Section.
 DB - Bench Stock Support Section.

Operations Support Branch

<u>BASE</u>	<u>LGSC</u>	<u>CD</u>	<u>CR</u>	<u>CM</u>	<u>CW</u>	<u>CX</u>
ALTUS	1	5	2	2	0	3
BERGSTROM	1	1	0	1	2	0
CARSWELL	1	0	0	0	1	0
CHARLESTON	1	2	0	1	1	2
COLUMBUS	0	1	0	4	0	0
DOVER	1	1	0	0	0	4
EAKER	0	3	0	2	2	0
F.E.WARREN	0	2	0	1	0	0
GRAND FORKS	1	2	0	0	0	5
GRIFFIS	0	1	0	2	0	3
HOLLOMAN	1	3	0	1	2	2
HOMESTEAD	0	1	0	4	0	2
K.I.SAWYER	0	1	1	2	0	1
KIRTLAND	0	4	0	1	1	0
LAUGHLIN	0	1	2	3	0	3
LITTLE ROCK	1	1	3	1	0	0
LUKE	1	1	0	0	0	3
MALMSTROM	1	0	0	0	0	0
MCCHORD	1	1	1	0	1	5
MT HOME	0	1	0	1	0	2
MYRTLE BEACH	0	2	0	1	2	1
NELLIS	0	0	0	7	0	0
PATRICK	0	10	0	0	0	0
PLATTSBURG	1	4	0	2	0	0
POPE	1	1	0	0	2	2
REESE	1	2	1	1	0	0
SHAW	0	3	0	7	0	4
TYNDALL	1	4	0	7	0	2
WHITEMAN	1	1	2	1	0	0
WILLIAMS	1	2	1	3	0	0

Mode	1	1	0	1	0	0
Range	0-1	0-10	0-4	0-7	0-2	0-5

Explanation of Office Codes:

LGSC - Operations Support Branch office.
 CD - Demand Processing Section.
 CR - Repair Cycle Support Section.
 CM - Mission Support Section.
 CW - War Readiness Section.
 CX - Operations Support Section.

Chief of Supply and Squadron Section Offices

<u>BASE</u>	<u>LGS</u>	<u>CCQ</u>	<u>Micro. Unit</u>	<u>Post-Post Team</u>
ALTUS	1	1	0	0
BERGSTROM	1	2	0	0
CARSWELL	1	0	0	0
CHARLESTON	1	0	0	0
COLUMBUS	0	0	0	0
DOVER	0	0	0	0
EAKER	0	0	0	0
F.E.WARREN	0	0	0	0
GRAND FORKS	0	0	0	0
GRIFFIS	0	0	0	0
HOLLOMAN	1	1	1	3
HOMESTEAD	0	0	0	0
K.I.SAWYER	0	1	0	0
KIRTLAND	0	0	0	0
LAUGHLIN	0	0	0	0
LITTLE ROCK	0	0	0	0
LUKE	0	0	0	0
MALMSTROM	0	1	0	0
MCCHORD	2	1	0	0
MT HOME	1	1	0	0
MYRTLE BEACH	1	1	1	0
NELLIS	0	0	0	0
PATRICK	0	0	0	0
PLATTSBURG	0	0	0	0
POPE	1	0	0	0
REESE	1	0	0	0
SHAW	0	0	3	0
TYNDALL	3	4	0	2
WHITEMAN	0	0	0	0
WILLIAMS	1	1	0	0

Mode	0	0	0	0
Range	0-3	0-4	0-3	0-3

Explanation of Office Codes:

LGS - Chief of Supply/Assistant Chief of Supply/Secretary.
 CCQ - Squadron Section.

Micro. Unit - A locally organized unit at specific bases used specifically for software development.

Post-Post Team - Used in this summary to indicate microcomputers set aside for post-post operations.

Appendix G. Microcomputer Planning Guide for Base Supply (Draft)

Introduction

This microcomputer planning guide was developed for base-level supply managers to help identify areas within Base Supply for the managers to consider introducing microcomputers to improve productivity. The recommendations found in this edition of the guide are based on an opinion survey of 30 Management and Systems Officers throughout CONUS base-level supply accounts during the period of April through June 1989. In addition to providing recommendations for microcomputer placement within Base Supply, this guide also provides suggestions concerning appropriate numbers of microcomputers for each work section. It should be noted that the recommended numbers are only suggestions and local conditions should further define the requirements. Furthermore, each functional branch of Base Supply (excluding the Fuels Branch) is provided a consolidated list of microcomputer applications that the surveyed base-level supply accounts found useful. A special section at the end of the guide lists all the locally developed software programs or unique applications and points of contact identified during the survey. Since the survey was limited to 30 base-level supply accounts, the list of applications is sure to expand as more exhaustive studies and surveys are performed. One final note, since the potential for

microcomputers to improve productivity continues to grow as more and more people become computer literate and input their creativity in solving problems using computers, the scope and content of this guide should grow as well.

How this Guide Should be Used

This guide addresses the microcomputer requirements of each branch of Base Supply separately. Although many readers may be inclined to review only their own area of responsibility, it is highly recommended they review all areas to gain insight into the range of applications microcomputers are being used for in Supply. New insights can be gained on how to solve problems of interest in one work area through similar approaches taken in other areas. Throughout the application portion of this guide, potential word processing applications were mentioned for most of the work sections. However, it is understood that local management policy may require creation of correspondence such as letters, reports, and messages to be centralized at the branch office. Suggestions to improve, enhance, or update this guide should be sent to the OPR (Office or agency still to be determined).

Useful Acronyms

<u>Acronym</u>	<u>Definition</u>
AFEMS	- Air Force Equipment Management System
AGSOP	- Automated General Support Operation Program
BASS	- Base Automated Service Store
CA/CRL	- Custodian Authorization/Custody Receipt Listing
CDC	- Career Development Course
CD ROM	- Compact Disk, Read Only Memory
CWDE	- Chemical Warfare Defense Equipment
DMAS	- DynaMetric Microcomputer Analysis System
DRMO	- Defense Reutilization and Marketing Office
ECC	- Exception Code Control
FRC	- Funds Requirement Card
IAP	- Inventory Analysis Program
LAN	- Local Area Network
MAST	- MICAP Automated Status Tracking system
MBIS	- Mobility Bag Inventory System
MIAM	- Manpower Impact Assessment Model
MOOPS	- Microcomputer On-line/Off-line Processing System
PATS	- Personnel Automated Training Schedule
QRL	- Quick Reference List
RDO	- Redistribution Order
REX	- Requisition Exception Code
ROD	- Report of Item Discrepancy
SIFS	- Supply Interface System
SMART	- Supply Mobility and Recurring Training Program
STEP	- Sperry Terminal Emulator Program
TCTO	- Time Compliance Technical Order
TIP	- Terminal In-line Processing
TLRN	- Technical Logistics Reference Network
UTS	- Universal Terminal System (UTS-40)
WKRП	- Worldwide Keypunch Replacement Program
WORM	- Write-Once, Read-Mostly (Disk drive)
WSMIS	- Weapon System Management Information System

Management and Systems Branch

The following numbers of microcomputers are recommended to satisfy the basic microcomputer requirements for each section of the branch.

<u>Section</u>	<u>Microcomputers Required</u>
LGSP	1
LGSPF	1 - 2
LGSPF	1
LGSPF	1 - 2
LGSPF	1
LGSPD	1 - 2
LGSPC	2 - 4
LGSPA	1
LGSPR	0

General Comments:

(Refer to the Microcomputer Applications list at the end of this guide for specific applications.)

The Management and Systems Branch office, including the Management and Systems Officer/NCOIC and secretary, should have one microcomputer to support the limited amount of data analysis applications currently in use. The main application for a microcomputer in this office will be in word processing applications.

The Procedures and Analysis Section should have one to two microcomputers for the various analysis programs (both Air Force developed and locally developed) used to evaluate supply data, requirements to query the S1100/60 database, and to produce supply data charts for reports and the monthly "How Goes It" meeting.

The Customer Service and Training Section should have one to two microcomputers. Optimally, one computer in each unit, the Customer Liaison Office (CLO) and the Training Office, should increase productivity since there are frequently one or two assigned personnel in each unit in different locations. The CLO office needs to frequently process inquiries in response to customer questions. In addition, local programs have also been developed to automate the recording of customer question or complaint information, tasks previously performed manually on forms. This application has improved the capability of analyzing customer data for trends and to produce required reports in less time. The Training Office uses microcomputers to automate training schedules. This improves their ability to update or change the schedule much more efficiently. In addition, the Training Unit also uses microcomputers for

microcomputer user training and word processing applications such as writing lesson plans and creating training aids.

The Document Control Section should have one to two microcomputers for S1100/60 database queries, maintaining databases for weapons serial numbers, COMSEC equipment data, etc., and for local DCC and SSC programs.

The Computer Operations Section should have two to four microcomputers for use with routine upload/download applications and special program control applications with the S1100/60 mainframe. In addition, applications involving use of the Automated Post-Post system also require a microcomputer for system operation.

The Funds Management Section should have one microcomputer. The Funds Management Section makes extensive use of spreadsheet applications involving local stock fund management and trend analysis and also uses the AGSOP program from the Air Force Logistics Management Center, Gunter AFB, AL. The section uses interface software for database queries and for running funds-related transactions on the S1100/60 mainframe.

The Inventory Section should also have one microcomputer for use in running the IAP program, local programs, and S1100/60 interface applications.

The Administration section should have one microcomputer for the multitude of word processing applications and database applications used to monitor the supply account's publications, forms, and files.

Finally, the Supply Readiness Center was determined to not require a permanently assigned microcomputer. During contingencies and exercises, if microcomputer applications are needed by this unit, a microcomputer could be used from a different section, possibly the Mobility Section, to perform any required tasks.

Operations Support Branch

The following numbers of microcomputers are recommended to satisfy the basic microcomputer requirements for each section of the branch.

<u>Section</u>	<u>Microcomputers Required</u>
LGSC	1
LGSCD	1 - 2
LGSCR	1
LGSCM	1 - 2
LGSCW	1
LGSCX	2 - 3

General Comments:

(Refer to the Microcomputer Applications list at the end of this guide for specific applications.)

The Operations Support Branch office including the Operations Support Officer/NCOIC and secretary, should have one microcomputer to support the limited amount of data analysis applications currently in use. The main application for a microcomputer will be in word processing applications.

The Demand Processing Section should have one to two microcomputers. The primary use will be in S1100/60 interface applications both in-line and off-line. In addition, the automated research system, automated post-post system, and telecommunication access to government information systems involving research function activities requires microcomputer capabilities. The number of microcomputers may increase depending on the number of assigned personnel and the number of UTS 40 Sperry remote terminals still available for in-line processing.

The Repair Cycle Support Section should have one microcomputer for S1100/60 interface applications both in-line and off-line. Although S1100/60 interface applications are of primary importance, various reports, supply assistance messages, and other documentation lend themselves to the word processing capability in this section.

The Mission Support Section should have one to two microcomputers, primarily for S1100/60 interface applications, automated research system (if applicable), automated MICAP status update programs, and access to the WSMIS system. In addition, various local word processing and spreadsheet applications are used.

The War Readiness Section, including combinations of WRS7, BLSS, Tail Number Bin, etc., should have one to two microcomputers primarily for S1100/60 interface applications

both in-line and off-line, local database applications involving special program management, and access to the WSMIS system.

The Operations Support Section, not including activities performed by the Mission Support Section or War Readiness Section discussed above, should have two to three microcomputers, primarily for S1100/60 interface applications and access to the WSMIS system. This number of recommended microcomputers could easily increase depending on the number of decentralized locations being supported.

Materiel Management Branch

The following numbers of microcomputers are recommended to satisfy the basic microcomputer requirements for each section of the branch.

<u>Section</u>	<u>Microcomputers Required</u>
LGSM	1
LGSMS	2 - 3
LGSME	1 - 2
LGSMR	3 - 4
LGSMM	0 - 1
LGSMK	0 - 1

General Comments:

(Refer to the Microcomputer Applications list at the end of this guide for specific applications.)

The Materiel Management Branch office, including the Materiel Management Officer/NCOIC and secretary, should have one microcomputer for word processing and various database applications used for administrative purposes.

The Stock Control Section should have two to three microcomputers for the numerous Air Force and locally developed software programs and applications used to monitor supply programs. In addition, the S1100/60 interface applications extensively used in this section are expected to be supplemented by one or two remote terminals tied into the S1100/60 mainframe.

The Equipment Management Section should have one to two microcomputers for the various Air Force developed programs and the growing number of locally developed programs used in this area. In addition, the S1100/60 interface applications are also used in both the in-line and off-line mode.

The Retail Sales Section, including the Base Service Store, Individual Equipment Unit, and the Tool Issue Center, should have three to four microcomputers primarily for use with the BASS system. In addition, the section also uses microcomputers for S1100/60 interface applications, Air Force developed programs like the MBIS program, and locally developed programs for the Individual Equipment Unit operation.

The Mobility Section, for those accounts that have one, should have one microcomputer for mobility bag-related inventory accountability using the Air Force developed MBIS program. In addition, depending on local mission requirements, the management of CWDE, in terms of shelf-life tracking, etc., is more effective if automated with database programs.

Finally, the Munitions Management Section, for those accounts that have one, may need a microcomputer for S1100/60 interface applications in both the in-line and off-line mode.

Materiel Storage and Distribution Branch

The following numbers of microcomputers are recommended to satisfy the basic microcomputer requirements for each section of the branch.

<u>Section</u>	<u>Microcomputers Required</u>
LGSD	1
LGSDR	1
LGSDI	1
LGSDD	0
LGSDS	0 - 1
LGSDB	0 - 1

General Comments:

(Refer to the Microcomputer Applications list at the end of this guide for specific applications.)

The Materiel Storage and Distribution Branch office, including the Materiel Storage and Distribution Branch Officer/NCOIC and Secretary, should have one microcomputer for word processing and various database applications used for administrative purposes.

The Receiving Section should have one microcomputer for S1100/60 interface applications in both the on-line and off-line mode. In addition, the section may also use various database applications such as the automated reverse post log.

The Inspection Section should have one microcomputer for S1100/60 interface applications and a variety of database applications used to keep track of specially managed supplies such as health hazard items, etc.

Finally, although microcomputer applications for the Pickup and Delivery Section seems remote except for the most general administrative tasks, the Storage and Issue Section and the Bench Stock Section could possibly be assigned a microcomputer if local conditions warrant. Most of the potential applications for these two sections would center around S1100/60 interface applications, and could possibly be considered for shared use of another section's microcomputer.

Chief of Supply and Squadron Section Offices

The following number of microcomputers are recommended to satisfy the basic microcomputer requirements for each of the offices.

<u>Office</u>	<u>Microcomputers Required</u>
LGS	1
CCQ	1

General Comments:

(Refer to the Microcomputer Applications list at the end of this guide for specific applications.)

The Chief of Supply office, including the Chief of Supply, Assistant Chief of Supply, and the secretary, should have at least one microcomputer, primarily for word processing applications. In addition, although not currently in use in the surveyed bases, various data analysis programs and spreadsheet applications may be useful to the Chief of Supply to conduct his own supply data analysis. Furthermore, if a local area network is on-line, the microcomputer will be used for information transmission purposes.

The Squadron Section office should have at least one microcomputer for various word processing tasks and database applications for managing administrative tasks. In addition, the Squadron Section will have increased personnel responsibilities formerly provided by the Base Consolidated Personnel Office that will utilize microcomputers and their telecommunication capabilities.

Current Microcomputer Applications for Base Supply

The following information is a consolidated list of microcomputer software and applications reported by the Management and Systems Officers for the 30 base-level supply accounts surveyed. The percentage figure below each office symbol shows the percentage of surveyed accounts that had at least one microcomputer in use in the given section. The percentage figure to the right of each of the applications shows the percentage of accounts that were using the specific software or application among the accounts that had a microcomputer assigned to the work section. Although the main General Use applications (Word Processing, Database and Spreadsheets) list examples of specific applications in use, the percentage figure does not necessarily apply to all of the examples listed.

MANAGEMENT AND SYSTEMS BRANCH	
<u>Section</u>	<u>Applications</u>
LGSP (37%)	<u>General Uses:</u>
	-Word Processing.....(100%)
	-Branch correspondence
	-Checklists
	-Messages
	-Reports
	-Database.....(36%)
	-Leave schedules
	-Personnel data lists
	-Suspense lists
	-Spreadsheet.....(9%)
	-Supply data charts
	<u>Air Force Developed Software/Application:</u>
	-WSMIS access software.....(9%)
	<u>Locally Developed Software/Applications:</u>
	-Regulations/Manuals Update Tracking
	Program.....(9%)
	-Squadron Information Management
	System.....(18%)
	<u>Proposed Applications:</u>
	-Electronic Mail capability for all
	branches and sections..... N/A
	-Local Area Network (LAN) or similar for
	all branch offices, the Chief of
	Supply and locally determined
	work sections.....N/A

<u>LGSP</u> (100%)	<u>General Uses:</u> -Word Processing (83%) -Access authorization lists -Checklists -Local regulations -Messages/reports -Operating instructions -Surveillance reports -Database..... (13%) -DIREP listing -Personnel data records -Suspense list -Vehicle status records -Spreadsheets..... (87%) -Supply data analysis using spreadsheets -Supply data charts -Delivery response time report <u>S1100/60 Interface software:</u> -Automated Post-Post..... (10%) -MOOPS..... (10%) -TIP..... (23%) -WKRP..... (7%) <u>Air Force Developed Software/Applications:</u> -IAP..... (37%) -MIAM..... (7%) -M16 Analysis Program..... (7%) -M32 Analysis Program..... (27%) -WSMIS access software..... (3%) <u>Locally Developed Software/Applications:</u> -Branch Performance Analysis Report..... (3%) -Customer Complaint Analysis..... (7%) -Management Indicators Analysis Program. (3%) -M10 Analysis..... (3%) -Personnel Data Program..... (3%) -Receipt Not Due-in Data Analysis Program..... (3%)
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<u>LGSPF</u>	<u>General Uses:</u>
(77%)	-Word Processing.....(30%)
	-Letters
	-Messages
	-Spreadsheet.....(91%)
	-Breakdown of GSD sales by customer
	-Forecasting
	-GSD credit returns (local) by customer
	-GSD Cumulative totals Breakout of
	FY Actual
	-GSD Gain/Loss and Percent Credit
	Returns Analysis Breakout of FY
	Actual
	-GSD Monthly Change Breakout of FY
	Actual
	-GSD Net Demands to Obligations
	Breakout of FY Actual
	-GSD Operating Program Actual
	Monthly Operation Schedule 5
	-GSD Operating Program Breakout of
	EOP Actual
	-Quantitative analysis
	-Supply data charts
	-Trend analysis
	<u>S1100/60 Interface Software:</u>
	-TIP.....(35%)
	<u>Air Force Developed Software/Applications:</u>
	-AGSOP.....(48%)
	-IAP.....(3%)

<u>LGSPT</u>	<u>General Uses:</u>
(77%)	-Word Processing.....(65%)
	-Lesson Plans
	-Letters
	-Reports
	-Database.....(43%)
	-Flightline badge holders list
	-Local purchase issues list
	-Training Record Data lists
	-Training Schedules/Attendance Records
	-Spreadsheets.....(4%)
	-Supply data charts
	<u>S1100/60 Interface Software:</u>
	-Automated Post-Post (for batch inquiries).....(4%)
	-MOOPS (for batch inquiries).....(4%)
	-TIP (inquiries, etc.).....(30%)
	-WKRP (for batch inquiries).....(13%)
	<u>Air Force Developed Software/Applications:</u>
	-OJT CDC Pre-Test Program.....(35%)
	-PATS.....(9%)
	-SMART.....(13%)
	<u>Locally Developed Software/Applications</u>
	-Call-in and Complaint Records (Automated SF 44).....(9%)
	-PC Training Program for New Users.....(9%)
	-Zero Overpricing Program Monitorship Software.....(4%)

<u>LGSPI</u>	<u>General Uses:</u>
(57%)	-Word Processing.....(29%)
	-Letters
	-Reports
	-Database.....(6%)
	-Inventory suspense list
	-Spreadsheet.....(12%)
	-Supply data charts
	<u>S1100/60 Interface Software:</u>
	-Automated Post-Post.....(18%)
	-TIP.....(59%)
	-WKRP.....(6%)
	<u>Air Force Developed Software/Applications:</u>
	-IAP.....(71%)
	<u>Locally Developed Software/Applications</u>
	-Automated CIC and EIC image program....(6%)
	-Inventory History Database Program....(6%)

LGSPD
(90%)

General Uses:

- Word Processing.....(4%)
 - Reports
 - Letters
- Database.....(33%)
 - Personnel Authorized to Receipt
for Weapons list
 - Personnel Authorized to Receipt
for Classified Property list

S1100/60 Interface Software:

- MOOPS.....(7%)
- TIP.....(26%)
- WGRP.....(15%)

Air Force Developed Software/Applications:

- Microform System.....(22%)

Locally Developed Software/Applications:

- Automated COMSEC Equipment Inventory
Database.....(11%)
- Automated Weapons Serial Number
Database.....(26%)
- Document Control Card (DCC) Program
Software.....(56%)
- Shipment Suspense Card (SSC) Program
Software.....(15%)

Proposed Applications:

- CD WORM (Compact Disk - Write
Once/Read Mostly) optical disk storage
and retrieval system.....N/A

<u>LGSPC</u>	<u>General Uses:</u>
(87%)	-Word Processing.....(15%)
	-Letters
	-Reports
	-Database.....(31%)
	-AF Form 2011 listing
	-S1100/60 Report Scheduling
	<u>S1100/60 Interface Software:</u>
	-Automated Post-Post.....(42%)
	-MOOPS.....(27%)
	-TIP (Emulation Software).....(81%)
	-WKRP.....(19%)
	<u>Locally Developed Software/Applications</u>
	-Automated Stock Number Users Directory
	(SNUD).....(4%)
	-PC Training Program for New Users.....(8%)
	(Note: Also see LGSPT local programs.)

<u>LGSPA</u> (30%)	<u>General Uses:</u> -Word Processing.....(100%) -Letters -Master delegation of authority letters -Master file plans for squadron -Messages -Personnel recall rosters -Publications/Forms lists -Reports -Squadron Operating Instructions -Squadron Publications list -Squadron telephone listing -Suggestion Program monitorship data -Database.....(33%) -Suspense list <u>Locally Developed Software/Applications:</u> -Automated Publications Ordering System.....(11%)
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<u>LGSPR</u> (20%)	<u>General Uses:</u> -Word Processing.....(17%) -Reports -Database.....(67%) -Mobility training records (Shot records, special training, etc.) <u>Air Force Developed Software/Applications:</u> -DMAS.....(33%) -MRRR Program (in TAC) - specifies mobility requirements for a given UTC.(17%) -WSMIS access software.....(33%)
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MATERIEL MANAGEMENT BRANCH

<u>Section</u>	<u>Application</u>
<u>LGSM</u> (37%)	<u>General Uses:</u> <ul style="list-style-type: none">-Word Processing.....(100%)<ul style="list-style-type: none">-Branch correspondence-Checklists-Messages-Reports-Database.....(18%)<ul style="list-style-type: none">-Leave schedules-Personnel data lists-Suspense lists-Spreadsheet.....(9%)<ul style="list-style-type: none">-Supply data charts

<u>LGSMS</u> (93%)	<u>General Uses:</u> -Word Processing.....(36%) -Letters -Messages -Reports -Database.....(32%) -Data files on local purchase items -Data files on special levels -DRMO inventory/withdrawal listing -Spreadsheet.....(14%) -Excess item stratification -Statistical analysis -Supply data charts <u>S1100/60 Interface Software:</u> -Automated Post-Post.....(11%) -MOOPS.....(29%) -TIP.....(36%) -WKRP.....(29%) <u>Air Force Developed Software/Applications:</u> -ECC Program.....(79%) -FRC Program.....(64%) -Order & Ship Time Program (SAC).....(4%) <u>Locally Developed Software/Applications:</u> -Automated Reverse Post Log.....(4%) -FRC Program (locally developed).....(7%) -Material Deficiency Report (MDR) Status Update Program.....(4%) -Receipt Not Due-In Tracking Program....(4%) -Report of Item Discrepancy Monitorship Program(7%) -Requisition Exception (REX) code Monitoring Program.....(4%) -Tar Program Data Records.....(4%)
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LGSME
(83%)

General Uses:

- Word Processing..... (28%)
 - Letters
 - Reports
- Database..... (44%)
 - Allowance Source Code Lists
 - List of pallets/nets
 - P-deck listing
 - Table of Allowance (TA) review
date tracking
 - Turn-in suspense tracking list
 - Vehicle management data files

S1100/60 Interface Software:

- Automated Post-Post..... (4%)
- MOOPS..... (12%)
- TIP..... (36%)
- WKRFP..... (16%)

Air Force Developed Software/Applications:

- AFEMS Requirements Screen Prototype.... (4%)
- Automated AF Form 600 log..... (52%)
- MBIS..... (8%)
- SMART..... (4%)

Locally Developed Software/Applications:

- Automated FME Program for Deployment.. (24%)
- Equipment Custodian CA/CRL management
program..... (8%)
- M06 monitoring program..... (4%)
- Redistribution Order (RDO) Status
Tracking Program..... (4%)

<u>LGSMR</u>	<u>General Uses:</u>
(90%)	-Word Processing.....(19%)
	-Letters
	-Database.....(15%)
	-Customer authorization listings
	-Mobility bag tasking
	-Warranty Records data
	<u>S1100/60 Interface Software:</u>
	-MOOPS.....(7%)
	-TIP.....(11%)
	-WKRFP.....(11%)
	<u>Air Force Developed Software/Applications:</u>
	-BASS.. ..(100%)
	<u>Locally Developed Software/Applications:</u>
	-Automated Stock Number User Directory
	(SNUD).....(4%)
	-Individual Equipment Unit (IEU)
	Processing Program.....(22%)
	-Mobility Bag Tariff Guide Program.....(4%)

<u>LGSM</u>	<u>Air Force Developed Software/Applications:</u>
(43%)	-MBIS.....(100%)
	-SMART.....(8%)

	<u>Locally Developed Software/Applications</u>
	-Automated Weapons Accountability
	Program for Mobility.....(8%)
	-CWDE Accountability Program.....(8%)
	-Chemical Warfare Item Manufacture date
	Tracking Program.....(8%)
	-Shelf-life Tracking Program.....(15%)

<u>LGSM</u>	<u>S1100/60 Interface Software:</u>
(17%)	-MOOPS.....(20%)
	-TIP.....(40%)
	-WGRP.....(20%)

	<u>Locally Developed Software/Applications:</u>
	-Munitions Forecasting Spreadsheet
	Program.....(20%)

MATERIEL STORAGE AND DISTRIBUTION BRANCH

<u>Section</u>	<u>Application</u>
<u>LGSD</u> (23%)	<u>General Uses:</u> -Word Processing.....(100%) -Branh correspondence -Checklists -Messages -Reports -Database.....(14%) -Leave schedules -Personnel data lists, -Suspense lists -Training status lists -Warehouse badge records/data list -Spreadsheet.....(14%) -Supply data charts

<u>LGSDI</u> (40%)	<u>General Uses:</u> -Word Processing..... (17%) -Letters -Reports -Database..... (33%) -Suspect item list -Spreadsheet..... (8%) -Supply data charts <u>S1100/60 Interface Software:</u> -Automated Post-Post..... (17%) -MOOPS..... (8%) -TIP..... (17%) -WKRP..... (25%) <u>Air Force Developed Software/Applications:</u> -Automated Research (CD ROM, etc.)..... (25%) -WSMIS access software..... (8%) <u>Locally Developed Software/Applications:</u> -Automated Electrostatic Sensitive Device (ESD) Database..... (8%) -Automated Health Hazard Item listing.. (33%) -Automated TCTO Item Tracking Database.. (8%) -DOD Material Safety Information Database..... (8%) -Label making program for Health Hazard items..... (8%) -Label making program for Shelf-Life items..... (8%) -Label making program for TCTO items and Shelf-life items..... (8%)
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<u>LGSDR</u>	<u>General Uses:</u>	
(87%)	-Database.....	(4%)
	-Reverse post log	
	-TCTO and Health Hazard item tracking	
	<u>S1100/60 Interface Software:</u>	
	-Automated Post-Post.....	(27%)
	-MOOPS.....	(27%)
	-TIP.....	(35%)
	-WKR.....	(27%)
	<u>Locally Developed Software/Applications:</u>	
	-Post-Post Receipt Program.....	(8%)
	-Report of Item Discrepancy (ROD) Monitorship Program	(8%)

<u>LGSDS</u>	<u>S1100/60 Interface Software</u>	
(20%)	-MOOPS.....	(33%)
	-TIP.....	(83%)

<u>LGSDB</u>	<u>S1100/60 Interface Software:</u>	
(20%)	-MOOPS.....	(33%)
	-TIP.....	(50%)
	-WKR.....	(33%)

OPERATIONS SUPPORT BRANCH

<u>Section</u>	<u>Application</u>
<u>LGSC</u> (50%)	<u>General Uses:</u> -Word Processing.....(100%) -Branh correspondence -Checklists -Messages -Reports -Database.....(20%) -Leave schedules -Personnel data lists -Suspense lists -Spreadsheet.....(13%) -Supply data charts <u>Air Force Developed Software/Applications:</u> -WSMIS access software.....(7%)
<u>LGSCD</u> (90%)	<u>General Uses:</u> -Word Processing.....(19%) -Quick Reference Lists (QRL) -Database.....(7%) -Item Manager phone number list <u>S1100/60 Interface Software:</u> -Automated Post-Post.....(22%) -MOOPS.....(22%) -TIP.....(44%) -WKRP.....(22%) <u>Air Force Developed Software/Applications:</u> -Automated Research Systems (CD ROM, Haystack, Parts Master).....(56%) -DO43 System access software.....(19%) -FEDLOG System access software.....(7%) -Technical Logistics Reference Network (TLRN) access software.....(4%) <u>Locally Developed Software/Applications</u> -Automated Delivery Destination Database.....(7%) -Automated Stock Number User Directory (SNUD).....(4%)

<u>LGSCR</u>	<u>General Uses:</u>	
(27%)	-Word Processing.....	(38%)
	-Letters	
	-Messages	
	-Reports	
	<u>S1100/60 Interface Software:</u>	
	-Automated Post-Post.....	(38%)
	-MOOPS.....	(38%)
	-TIP.....	(25%)
	-WKRP.....	(38%)

<u>LGSCM</u>	<u>General Uses:</u>	
(70%)	-Word Processing.....	(14%)
	-Leave schedules, work schedules	
	-Letters	
	-Quick Reference Lists (QRL)	
	-Reports	
	-Spreadsheet.....	(10%)
	-Reports	
	-Supply data charts	
	<u>S1100/60 Interface Software:</u>	
	-Automated Post-Post.....	(24%)
	-MOOPS.....	(24%)
	-TIP.....	(48%)
	-WKRP.....	(24%)
	<u>Air Force Developed Software/Applications:</u>	
	-MAST.....	(19%)
	-WSMIS access software.....	(33%)
	<u>Locally Developed Software/Applications</u>	
	-Automated Local Manufacture Item	
	Database.....	(5%)
	-MICAP Status Update Program.....	(21%)

LGSCW General Uses:
(27%) -Word Processing..... (13%)
 -Reports
 -Database..... (13%)
 -Functional check items pending
 action list
 -Tail Number Bin (TNB) Inventory
 List

S1100/60 Interface Software:
 -Automated Post-Post..... (13%)
 -MOOPS..... (13%)
 -TIP..... (38%)
 -WKRPP..... (25%)

Air Force Developed Software/Applications:
 -Automated DD Form 1387-2 Form..... (13%)
 -DMAS..... (13%)
 -MBIS..... (25%)
 -WSMIS access software..... (25%)

LGSCX General Uses:
(Also -Word Processing..... (31%)
see -Letters
previous -Reports
sections
that
are
sometimes
incorporated
into this S1100/60 Interface Software:
section.) -Automated Post-Post..... (25%)
(53%) -MOOPS..... (31%)
 -TIP..... (75%)
 -WKRPP..... (13%)

Air Force Developed Software/Applications:
 -WSMIS access software..... (13%)

Locally Developed Software/Applications:
 -Automated Tail Number Bin (TNB)
 Inventory List..... (6%)

CHIEF OF SUPPLY AND SQUADRON SECTION OFFICES

<u>Office</u>	<u>Application</u>
<u>LGS/LGSA</u> (37%)	<u>General Uses:</u> -Word Processing.....(91%) -Chief of Supply appointment calendar -Common database of delegated responsibilities for the account -General correspondence -Spreadsheet.....(18%) -Supply data charts
<u>CCQ/CCQA</u> (30%)	<u>General Uses:</u> -Word Processing..... ..(100%) -Awards and decorations -Letters -Performance reports -Reports -Database.....(56%) -Personnel Data Records -Suspense lists <u>Proposed Applications:</u> -Personnel Concept III.....N/A

Locally Developed Microcomputer Programs/Software and POC's

The following list of software programs or unique applications was compiled from a survey of 30 base-level supply accounts during the period of April - June 1989. The list excludes software used to interface with the S1100/60 or software for use in post-post operations. The bases listed beneath each entry may or may not be the original software developer, but do currently use the named software. Points of contact from each supply account are listed with their autovon numbers on the last page of this appendix.

Automated CIC/EIC Image Program

-Mountain Home AFB, ID

Automated COMSEC Equipment Inventory Database

-F.E. Warren AFB, WY

-Grand Forks AFB, ND

-Homestead AFB, FL

Automated Customer Call-In Log/Complaint Software

-Dover AFB, DE

-Holloman AFB, NM (automated SF 44)

Automated Delivery Destination Database

-Columbus AFB, MS

-Patrick AFB, FL

Automated Electrostatic Sensitive Device (ESD) Database

-Little Rock AFB, AR

Automated FME Program for Deployment

-Bergstrom AFB, TX

-Laughlin AFB, TX

-Mountain Home AFB, ID

-Myrtle Beach AFB, SC

-Patrick AFB, FL

-Tyndall AFB, FL

Automated Health Hazard Item Database

-Bergstrom AFB, TX

-Griffis AFB, NY

-Laughlin AFB, TX

-Little Rock AFB, AR

Automated Local Manufacture Item Database

-Laughlin AFB, TX

Automated Publications Ordering System

-Columbus AFB, MS

Automated Reverse Post Log
-Griffis AFB, NY

Automated Stock Number User Directory (SNUD)
-Columbus AFB, MS

Automated Tail Number Bin (TNB) Inventory List
-Laughlin AFB, TX

Automated Time Change Technical Order (TCTO) Item Tracking
Program
-Bergstrom AFB, TX

Automated Weapons Serial Number Database
-Eaker AFB, AR
-Grand Forks AFB, ND
-Holloman AFB, NM
-Homestead AFB, FL
-McChord AFB, WA
-Mountain Home AFB, ID
-Patrick AFB, FL

Branch Performance Analysis Program
-Holloman AFB, NM

Call-In and Complaint Records Database
-Holloman AFB, NM

CD WORMS (Compact Disk - Write Once Read Mostly) Optical
Disk Storage and Retrieval System
-Proposed system will download DCC from the S1100/60
and catalogue by document number. Proposed system will have
real time on line capability. (Williams AFB, AZ)

Chemical Warfare Item Manufacture Date Database
-Mountain Home AFB, ID

CWDE Accountability Program
-Mountain Home AFB, ID

Customer Complaint Analysis Program
-Charleston AFB, SC
-Little Rock AFB, AR

Document Control Card (DCC) Program Software:

- Altus AFB, OK
- Bergstrom AFB, TX
- Grand Forks AFB, ND
- Griffis AFB, NY
- Holloman AFB, NM
- Homestead AFB, FL
- Laughlin AFB, TX
- Little Rock AFB, AR
- Luke AFB, AZ
- Mountain Home AFB, ID
- Nellis AFB, NV
- Patrick AFB, FL
- Pope AFB, NC
- Shaw AFB, SC
- Tyndall AFB, FL

DOD Material Safety Information Database

- Grand Forks AFB, ND

Equipment Custodian CA/CRL Management Program

- Dover AFB, DE
- Laughlin AFB, TX

Funds Requirement Card (FRC) Program (Locally Developed)

- Plattsburg AFB, NY
- Tyndall AFB, FL

Individual Equipment Unit (IEU) Processing Program

- Columbus AFB, MS
- Eaker AFB, AR
- Mountain Home AFB, ID
- Reese AFB, TX
- Shaw AFB, SC
- Williams AFB, AZ

Inventory History Database Program

- Homestead AFB, FL

Label making program for Health Hazard Items

- Little Rock AFB, AR

Label making program for Shelf-Life Items

- Luke AFB, AZ

Label making program for TCTO Items

- Luke AFB, AZ

M06 Monitoring Program

- Charleston AFB, SC

M10 Analysis Program
-Charleston AFB, SC

Management Indicators Analysis Program
-Charleston AFB, SC

Material Deficiency Report (MDR) Status Update Program
-Mountain Home AFB, ID

MICAP Status Update Program
-Holloman AFB, NM
-Mountain Home AFB, ID
-Nellis AFB, NV
-Shaw AFB, SC

Mobility Bag Tariff Guide (Spreadsheet)
-Griffis AFB, NY

Munitions Forecasting Spreadsheet Program
-Patrick AFB, FL

Personal Computer (PC) Training Program for New Users
-Nellis AFB, NV
-Shaw AFB, SC

Personnel Data Program
-Charleston AFB, SC

Post-Post Receipt Program
-Grand Forks AFB, ND
-Holloman AFB, NM

Receipt Not Due-In Analysis Program
-Bergstrom AFB, TX

Redistribution Order (RDO) Status Tracking Program
-Mountain Home AFB, ID

Regulation/Manuals Update Tracking Program
-Tyndall AFB, FL

Report Of Item Discrepancy (ROD) Monitorship Program
-Holloman AFB, NM
-Patrick AFB, FL

Requisition Exception (REX) Code Code Monitoring Program
-Charleston AFB, SC

Shelf-Life Tracking Program
-Mountain Home AFB, ID
-Myrtle Beach AFB, SC

Shipment Suspense Card (SSC) Program Software

- Holloman AFB, NM
- Homestead AFB, FL
- Luke AFB, AZ
- Tyndall AFB, FL

Squadron Information Management System

- Myrtle Beach AFB, SC (Proposed)
- Reese AFB, TX
- Tyndall AFB, FL

TAR Program Data Records

- Bergstrom AFB, TX

Weapons Accountability Program for Mobility

- Holloman AFB, NM

Zero Overpricing Program (ZOP) Monitorship Software

- Tyndall AFB, FL

Locally Developed Software - POC

<u>Base</u>	<u>Office Symbol</u>	<u>Autovon</u>
Altus AFB, OK	LGSP	866-6866
Bergstrom AFB, TX	LGSP	685-3805
Carswell AFB, TX	LGSP	739-7352
Charleston AFB, SC	LGSP	583-2435
Columbus AFB, MS	LGSP	742-7165
Dover AFB, DE	LGSP	435-6237
Eaker AFB, AR	LGSP	721-7438
F.E. Warren AFB, WY	LGSP	481-3092
Grand Forks AFB, ND	LGSP	362-3654
Griffis AFB, NY	LGSP	587-2051
Holloman AFB, NM	LGSP	867-7029
Homestead AFB, FL	LGSP	791-8668
K.I. Sawyer AFB, MI	LGSP	472-2242
Kirtland AFB, NM	LGSP	244-9545
Laughlin AFB, TX	LGSP	732-5221
Little Rock AFB, AR	LGSP	731-3025
Luke AFB, AZ	LGSP	853-7263
Malmstrom AFB, MT	LGSP	632-6006
McChord AFB, WA	LGSP	976-2437
Mountain Home AFB, ID	LGSP	857-6692
Myrtle Beach AFB, SC	LGSP	748-7321
Nellis AFB, NV	LGSP	682-2114
Patrick AFB, FL	LGSP	854-2668
Plattsburg AFB, NY	LGSP	689-7342
Pope AFB, NC	LGSP	486-2675
Reese AFB, TX	LGSP	838-3282
Shaw AFB, SC	LGSP	965-3545
Tyndall AFB, FL	LGSP	523-2133
Whiteman AFB, MO	LGSP	975-3032
Williams AFB, AZ	LGSP	474-5255

Appendix H: List of Acronyms

<u>Acronym</u>	<u>Definition</u>
AFEMS	- Air Force Equipment Management System
AGSOP	- Automated General Support Operation Program
DASS	- Base Automated Service Store
CA/CRL	- Custodian Authorization/Custody Receipt Listing
CD ROM	- Compact Disk, Read Only Memory
CWDE	- Chemical Warfare Defense Equipment
DMAS	- DynaMetric Microcomputer Analysis System
DRMO	- Defense Reutilization and Marketing Office
ECC	- Exception Code Control
FRC	- Funds Requirement Card
IAP	- Inventory Analysis Program
LAN	- Local Area Network
MAST	- mICAP Automated Status Tracking system
MBIS	- Mobility Bag Inventory System
MIAM	- Manpower Impact Assessment Model
MOOPS	- Microcomputer On-line/Off-line Processing System
PATS	- Personnel Automated Training Schedule
QRL	- Quick Reference List
RDO	- Redistribution Order
REX	- Requisition Exception Code
ROD	- Report of Item Discrepancy
SIFS	- Supply Interface System
SMART	- Supply Mobility and Recurring Training Program
STEP	- Sperry Terminal Emulator Program
TCTO	- Time Compliance Technical Order
TIP	- Terminal In-line Processing
TLRN	- Technical Logistics Reference Network
UTS	- Universal Terminal System (UTS-40)
WKR P	- Worldwide Key punch Replacement Program
WORM	- Write-Once, Read-Mostly (Disk drive)
WSMIS	- Weapon System Management Information System

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At the Air Force base level, for computer systems other than those which are command directed, organizations are required to determine their own information system requirements and provide adequate justification for their acquisition. However, formal guidance and techniques to accurately determine an organization's microcomputer requirements are general in nature and not easily applied.

The objective of this research study was to identify the basic microcomputer requirements of the base-level supply account, as perceived by the supply community, in terms of the numbers of microcomputers needed and their placement within the organizational structure. A survey of 30 Management and Systems Officers was conducted resulting in a descriptive analysis of the current microcomputer status of base-level supply accounts in terms of the numbers of microcomputers in use, their placement in the organization, and specific applications in use. In addition, the Management and Systems Officers also participated in an opinion survey resulting in recommended numbers of microcomputers for the various work sections of Base Supply. Finally, a microcomputer planning guide for Base Supply was developed to aid the supply manager with his future microcomputer acquisition decisions.

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